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Vol. XLII **August, 1946** **No. 4**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The San Francisco Session of the American Medical Association, the first unrestricted, full-dress meeting of the Association since 1942, seemed to please all who attended, and the attendance was large enough, under the circumstances. The total registration was 7,746, which exceeded by more than a thousand the registration at the last meeting held in San Francisco. Indeed, it was the largest medical meeting ever held on the Pacific Coast. The registration from Texas totaled 222. Excluding the attendance from California, which was, incidentally, 4,287, Texas had the third largest attendance, Illinois with 315 and New York with 297, leading us. Texans are not only avid for the sort of knowledge and experience gained in such a meeting, but they are accustomed to traveling long distances for whatever they want or want to do.

Those who attended the San Francisco session were practically a unit in praising the climate, the hospitality of the people, and the facilities for the meeting. That there should be enough hotel rooms and available meeting places was hardly to be expected. There was a bit of crowding and some disappointments, of course, in this respect, but on the whole conditions were quite satisfactory. The only fly in the ointment was a street car strike, and the fact that San Francisco is replete with steep hills, uphill both ways. Taxicabs did their levelest best to compensate for the disturbance in transportation, but there just were not enough taxicabs. However, the strike let up a day or so before the meeting closed, which helped a lot.

The entertainment features of the meeting were back to normal, or perhaps above normal, as would be the case on the Pacific Coast, particularly in San Francisco.

The scientific work of the meeting was exceptional, even for this great medical organization. The meetings of the scientific sections were well attended, and the exceedingly fine scientific exhibits were constantly crowded. The Section on General Practice of Medicine, recently set up, had a registration of 939, which was the third largest registration of the eighteen scientific sections, the Sections on Internal Medicine and on Surgery alone exceeding that registration.

Texas doctors participating in some capacity in the scientific work of the session were as follows:

Drs. Francis Reichsman, Harold Grant, and T. R. Harrison, Dallas, presented a paper before the Section on Internal Medicine, on "Studies on the Pathogenesis of Peripheral Edema in Congestive Heart Failure (Lantern Demonstration)."

Dr. Curtice Rosser, Dallas, opened the discussion on two papers read before the Section on Surgery, one being on the subject, "Abdominoperineal Proctosigmoidectomy for Rectal Cancer and the Management of Associated Vesical Dysfunction," and the other on "Unique Behavior of the Healing Open Pilonidal Wound and Clinical Complications."

Dr. William F. Mengert, Dallas, was Secretary of the Section on Obstetrics and Gynecology.

Dr. James M. Siever, San Antonio, read a paper before the Section on Obstetrics and Gynecology, on "Clinical Application of Caudal Anesthesia in Obstetrics (Lantern Demonstration)."

Dr. William F. Guerriero, Dallas, read a paper

before the Section on Obstetrics and Gynecology, on "Infectious Granulomatous Lesions of the Cervix (Lantern Demonstration)."

Dr. Everett L. Goar, Houston, opened the discussion of a paper read before the Section on Ophthalmology, on "A Neglected Case of Secondary Glaucoma in Eyes in which the Lens Is Absent or Dislocated."

Dr. Claude C. Cody, Houston, was a member of the Executive Committee of the Section on Laryngology, Otology and Rhinology.

Dr. J. M. Robison, Houston, read a paper before the Section on Laryngology, Otology and Rhinology, on "Pressure Treatment of Allergic Sinusitis (Lantern Demonstration)."

Dr. Homer E. Prince, Houston, opened the discussion of the paper presented by Dr. Robison.

Dr. Arild E. Hansen, Galveston, presented a paper before the Section on Pediatrics, on "Eczema and the Essential Fatty Acids (Lantern Demonstrations)."

Dr. Tinsley R. Harrison, Dallas, was a member of the Executive Committee of the Section on Experimental Medicine and Therapeutics.

Dr. George R. Herrmann, Galveston, read a paper before the Section on Experimental Medicine and Therapeutics, on "Some Observations on Hypercholesterolemia and the Effects of Decholesterizing Agents (Lantern Demonstration)."

Dr. C. F. Lehmann, San Antonio, was a member of the Executive Committee of the Section on Dermatology and Syphilology.

Dr. Arild E. Hansen, Galveston, opened the discussion of a paper read before the Section on Dermatology and Syphilology, on "An Unusual Form in Early Congenital Syphilis."

Dr. J. Bedford Shelmire, Dallas, opened the discussion of a paper read before the Section on Dermatology and Syphilology, on "An Unusual Form of Cutaneous Reaction Following Sulfonamide Therapy."

Dr. A. I. Folsom, Dallas, opened the discussion of a paper read before the Section on Urology, on "End Results Following Nephrectomy in Hypertensive Patients."

Drs. Curtice Rosser and Jack G. Kerr, Dallas, presented a paper before the Section on Gastro-Enterology and Proctology, on "Pilonidal Disease: Present Status of Surgical Treatment (Lantern Demonstration)."

Drs. Charles L. Martin and Carleton C. Wright, Dallas, presented a paper before the Section on Radiology, on "Irradiation Therapy for Cancer of the Face, Mouth and Metastatic Cervical Lymph Nodes (Lantern Demonstration)."

Dr. J. M. Robison, Houston, University of Texas School of Medicine, contributed an exhibit to the Scientific Exhibits for the Section on Laryngology, Otology and Rhinology, on "Pressure Treatment of Allergic Sinusitis."

Drs. H. C. Slocum, E. A. Hoeflich, and C. R. Allen, University of Texas School of Medicine, Galveston, contributed an exhibit to the Scientific Exhibits of the Section on Anesthesiology, on "Malpositions on the Operating Table."

Dr. Olin West, for many years Secretary and General Manager of the American Medical Association, and the soul of medicine in America, recently retired at his own request, was unanimously elected President-Elect.

Dr. H. H. Shoulders assumed the office of President of the Association at San Francisco, thus presenting a very exceptional situation, wherein two distinguished physicians from the same city and state, Nashville, Tenn., occupied the two highest offices in the American Medical Association.

Dr. A. J. Carlson, Chicago, received the Distinguished Service Award, over Drs. Torald Sollmann, Cleveland, and Francis Carter Wood, New York.

The next annual session of the Association will be held in Atlantic City, N. J., June 9-13, 1947. This will be the Centennial Meeting of the Association, for which great preparations are being made.

There will be a meeting of the House of Delegates at Chicago, in December.

The American Medical Association House of Delegates at San Francisco ran true to form, in that an enormous amount of highly important business was transacted. The period of postwar reconstruction seems to have definitely involved the American Medical Association in reconstruction confusion and demands. That its reputation for doing things was maintained, almost goes without the saying.

Texas was represented in the House of Delegates by Drs. Holman Taylor, Fort Worth; F. J. L. Blasingame, Wharton; Howard R. Dudgeon, Waco; B. E. Pickett, Sr., Carrizo Springs, and Edward H. Cary, Dallas, all regularly elected Delegates. In addition to these, the following Texas physicians served as Delegates from Scientific Sections: Dr. Charles T. Stone, Galveston, Section on Internal Medicine; Dr. C. F. Lehmann, San Antonio, Section on Dermatology and Syphilology, and Dr. H. E. Griffin, Graham, was elected a Delegate to represent the newly created Section on General Practice of Medicine.

Dr. B. E. Pickett, Sr., served as a member of the Reference Committee on Amendments to the Constitution and By-Laws; Dr. E. H. Cary served as a member of the Reference Committee on Executive Session, and Dr. F. J. L. Blasingame served on the Reference Committee on Postwar Planning.

This editorial will be in the nature of an unofficial report of the regular Texas delegation, which is by way of being a long established custom, and which it is hoped by the Delegates will serve a good purpose. The published proceedings of the meetings of the House of Delegates of the American Medical Association will be found in full in the following numbers of *The Journal of the American Medical Association:* July 13, 1946, page 905, and July 20, 1946, page 984.

The subject of public relations in general and in several particulars occupied the position of greatest

interest and activity during this particular meeting of the House of Delegates, as was the case with the previous meeting of the House. Discussions and decisions were rather intermingled as between prepayment plans, compulsory health insurance, rural medical service, and so on. We hope to bring to the attention of our readers, the several phases of these important questions. However, we are hopeful that our readers will take the trouble to follow the points of their interest through the Transactions, as published in *The Journal of the American Medical Association*, and already referred to.

A very comprehensive resolution on *Medical Service and Public Relations* was introduced in the House by the California delegation. This resolution opposed compulsory health insurance, and supported the National Medical Care Program of the Board of Trustees calling for the employment by the Association of experienced legislative representatives for the Washington office, with complete authority and full coöperation financially and otherwise, in carrying out the policies of the House of Delegates and the Board of Trustees, and that, which was really the point of the resolution, "the most competent and outstanding public relations counsel that can be found in the United States be employed immediately to bring to the American public the real story of American Medicine." The resolution provided that the plan set out in the resolution should "replace all the organizations that now are endeavoring to do legislative work on a national scale, and eliminate confusion arising from the divergent actions."

Another resolution from California, pertaining to the activities of the *Editor of The Journal of the American Medical Association*, was introduced. Both resolutions were referred to the Board of Trustees as a Reference Committee. This, as it transpired, was because of the fact that the Board of Trustees had already taken such action as would meet the objectives of the California delegation in these and other activities in this connection, at this meeting and perhaps other meetings of the House of Delegates.

As a matter of fact, the Board of Trustees had been investigating the whole problem for some months, and had employed a firm of public relations and publicity experts to analyze the whole problem and make recommendations. This firm came up with a very interesting report, and the Board of Trustees had, for the most part, already taken the advice incorporated in the report. The Bureau of Public Relations of the Association was commended most highly by this firm, as to the dissemination of news pertaining to health and medical activities and medical progress, but it was not so commendatory about other, and equally as important features of publicity. For one thing, these experts believed that *Hygeia*, the health magazine for laymen published by the American Medical Association, should be vitalized and expanded, and that the Editor-in-Chief of the Association should reserve some of his vivid and popular articles for the publication. These experts recommended, also, in short, that the American Medical Association separate definitely the functions of scientific interpretation and medical economics in the direction of public relations. They recommended that all scientific matters be handled by the Editor of *The Journal* with which suggestion, incidentally, the Board of Trustees agreed at once, but withheld approval of the idea of using some vivid articles for *Hygeia*, expressing the opinion that this publication for the layman should be authored by a wide variety of physicians from outside the inner circle. It was decided that the recommendation of the experts that the Bureau of Medical Economics be expanded, and that a person of high caliber be employed for its promotion should be carried out. It will be recalled that the Bureau of Medical Economics has been more or less in eclipse now for some time, new ideas having crowded it somewhat out of the picture. There have been several agencies set up to handle the various problems formerly handled by this Bureau, to the end that there has been more or less confusion and, therefore, lost motion.

The fact that the position of the Association on economic and social aspects of medicine has been defensive and negativistic was deplored by the experts. This recommendation met ready response, and approval by the Board of Trustees who decided to employ an Executive Assistant for the General Manager of the Association, who would have charge of coördinating and servicing the activities of "all officers, councils, bureaus, divisions and departments of the Association in relationship to the profession and general public." This Executive Assistant would, in practice, take over and direct the activities of the Association as they relate to the general public, except for scientific matters, which will remain in the hands of the Editor-in-Chief of the Association. He would be advised by professional public relations counsel, and his advice sought at all times and in all matters. These recommendations were approved and adopted, which is by way of making a long story short.

The resolutions introduced by the California delegation with reference to the activities of the Editor-in-Chief of the Association were withdrawn.

The National Medical Care Program, as worked out by piece-meal here and there, was consolidated and clarified to the extent possible at this time and under the circumstances. Several resolutions on the several phases of the problem were given the consideration that was due them. A resolution at the instance of the Conference of Presidents and Other Officers of State Medical Associations, which met in San Francisco just prior to the meeting of the American Medical Association, insisted upon activation of the policies already adopted by the American Medical Association, which envision a strong program of health legislation. The resolution was adopted. There would not seem to be any reason for this reiteration, but it is basic in any consideration of our medical care program. It was explained that the Trustees simply had not gotten to the problem in due course until very recently.

The Reference Committee on *Industrial Health* strongly approved the Supplementary Report of the Council on Industrial Health, advising that said council, by coöperatively working with management, labor, and the medical profession, can help to promote the health program of the American Medical Association, and very largely lead to approval of the position of the American medical profession in such matters as health insurance, whether coöperative or compulsory.

A resolution from Michigan sought to acknowledge the settlement in the *National Bituminous Wage* controversy as an accomplished fact, so far as it involves health, medical, and hospital service. The resolution sought further to set up a committee or council of the American Medical Association to work out immediately a coöperative plan for caring for the health of miners under the settlement of the coal strike. A resolution from Kentucky asked for a committee to advise with physicians affected by the administration of the health fund set up by the agreement which settled the strike, in order that said physicians might be properly advised concerning their rights and their modes of action under the circumstances presenting so that the ideals and standards of the American Medical Association in such particulars might be preserved.

These resolutions were referred to the Council on Medical Service and Public Relations, with instructions to contact any concerned group for the purpose of protecting the health and welfare of the workers, and maintaining proper professional relations. The Council on Industrial Health will coöperate with the

Council on Medical Service and Public Relations in these matters, as it will with a number of groups dealing with a number of phases of the whole problem of health, with workable plans laid for protecting the health of the public, which plans deal with more ramifications than we can deal with here. The Council on Medical Service and Public Relations, in a supplementary report, had stated that the voluntary prepayment medical care program was moving into high gear. At the time the report was read, thirty-one states had set up plans of the sort, and in twelve states and the District of Columbia, such plans were being actively developed. It also advised that each state should set up its own prepayment plan, and coöperate with existing Blue Cross Plans. The Council politely criticized the insistence that all such plans be wholly without profit. It was thought best to allow all such profits as would safeguard any such organization from stalling or failing. The greatest possible benefits in medical care should be provided for the subscribers.

The Council on Medical Service and Public Relations recommended approval, or acceptance of any coöperative plan in the following words: "The seal of acceptance denotes that (name of plan) has been accepted within the standards set forth by the Council on Medical Service and Public Relations of the American Medical Association." Any such plans to be acceptable must have local approval and professional control, free choice of physicians, proper patient-physician relationship, adequate rates based on sound actuarial principles, relatively inexpensive promotionary activities, with their several and respective implications. A national organization intended to coördinate the numerous state prepayment plans, the "Associated Medical Care Plans, Inc." was approved, and the duties for the corporation are "to assist in the initiation and development of plans in the individual states upon determination of need." The duties of the Council on Medical Service and Public Relations will remain the same as specified in our present By-Laws, with the addition of a new section providing for a division of Prepayment Medical Care Plans under the Council, and for the establishment of standards for prepayment medical care plans. The name of the Council on Medical Service and Public Relations was changed, by amendment to the By-Laws, to the "Council on Medical Service."

Rural Medical Service has been a problem of the American Medical Association now for some years. Mr. F. S. Crockett, Indiana, has long headed a committee working on the subject. The reports of this committee have always been pertinent, and obviously the subject matter has been closely allied with the efforts of the Association to plan an adequate medical service on a feasible, prepayment basis. The committee has been wise in recognizing that the situation is different in various sections of the country, and therefore requires different treatment in many of them. For that reason, there have been sectional conferences from which much understanding has come. For one thing, the committee has determined that organization for rural health service cannot be strictly on a county area basis; it must be on a wider trade area basis. That is a thought that does not enter the heads of our fellows in the more thickly populated sections of the country. A significant statement was made by the committee at San Francisco about the Farm Security Administration care. The committee said that when the farmers came upon better times financially, they just naturally fell out with the Farm Security Administration. It was held that middle-class families, whether rural or urban could pay for the cost of illness, except when the illness is catastrophic. It was figured that insurance distributes this cost, and can so distribute the cost in the lower financial brackets that it can be better borne by the individual. It is the low-income families, both rural and urban, which are the principal concern of those who are trying to furnish adequate medical service for all. The whole discussion pointed to the need of more well-trained physicians who are willing to enter general practice in rural areas, and the hope was expressed that medical colleges would lay more emphasis upon the value of general practice as a medical career.

Thus it will be seen that the problem of prepayment medical plans and rural medical service can and probably will work out together. A resolution was introduced in the House, providing for the establishment of a loan or revolving fund, for the states needing help in setting up prepayment medical plans. The resolution was not adopted, for the reason that the already setup Associated Medical Care Plans, Inc., had the authority to render such assistance, with the support of the Board of Trustees, of course.

Compulsory Health Insurance, of course, received its share of attention, which was considerable. The subject for national debate for the coming year, for high schools, is to be on a national system of compulsory health insurance. This has happened before. The Council on Medical Service and Public Relations reported that a new handbook on the subject was being prepared, in conjunction with the Bureau of Medical Economics. There are other agencies which are putting out handbooks of the sort, and it may be said parenthetically, that the Package Library Service of the State Medical Association of Texas will be ready to fill any reasonable demand for this sort of material.

In answer to the much publicized charge that the doctors of the nation are divided in the matter of support of the Wagner-Murray-Dingell bills, a resolution was adopted, asserting that such is not the case, and that the measure referred to will be harmful and cannot be supported by the medical profession. President-Elect Shoulders reminded us that in such times as these, "the enemies of freedom and the importers of alien philosophies of government find favorable opportunities for their most strenuous activities . . . The people of the United States are faced with the problem of determining the future course of this nation. They are faced with the problem of determining whether that course is back toward our 'American way of life' or toward some totalitarian system which always terminates in tyranny." He reminded us further that in years gone by, the government has set up a number of agencies, including hospitals, completely staffed and organized for the care and health of veterans and other wards of the government and that the staffs of these institutions are not going to be happy in any proposal of lessening their holds on their jobs.

The Reference Committee which dealt with the Address of President-Elect Shoulders, advised that "the situation is not appreciated by the younger men, and we should ever be alert that history does not repeat itself, and allow the same mistake to occur in this reconversion period." In this connection, the reference committee reporting on the address of Dr. Shoulders advised that another statement might be noted. He insisted that the oft repeated charge made by politicians that the activities of the medical profession are negative rather than positive was all wrong, and held that nothing could be more positive than the policies and positions of the American medical profession in these particular matters. He drew a significant differentiation between the "statesmen" and the "politicians."

In order to make assurances doubly sure that the medical profession stands definitely committed against the several measures pertinent in the movement to regiment and socialize the practice of medicine, the House of Delegates formally expressed its opposition to the Wagner-Murray-Dingell bill and the so-called Pepper bill. The Taft-Smith and Ball

bill (S. 2143) was held to be in the formative stage and supporters of a resolution calling for certain amendments to that measure and its tentative support were told to await developments. The Council on Medical Service and Public Relations, in conjunction with the Bureau of Legal Medicine and Legislation, was authorized to confer with the sponsors of this bill and report back to the House of Delegates at the next meeting.

A resolution from West Virginia complained bitterly that the chairman of a committee of the Senate had denied representatives of the medical association of that state the opportunity to appear before the committee in the United States Senate dealing with the Wagner-Murray-Dingell bill. The resolution was supported, with some slight modification.

A letter from Senator Murray, directed to the Chairman of the Board of Trustees of the American Medical Association, very cleverly sought to secure commitments from the Association which might subsequently prove to be embarrassing. Senator Murray asked for a statement as to the position of the American Medical Association on grants-in-aid to state-approved voluntary health programs which are supported by regular contributions by beneficiaries, and whether such contributions should be paid to the institutions or the physicians concerned. The letter asserted that "Such government assistance would encourage enrollment and have much the same result as legislative compulsion, but with freedom for localities to determine the timing and character of their health programs." The House referred the letter back to the Board of Trustees with the advice that it was difficult to evaluate one paragraph of a statement, without having read the entire statement, and the letter had reference to statements made before Senator Murray's Committee by representatives of the Blue Cross Commission, Mr. Mannix and Dr. Rorem.

A side-light on the subject of prepayment plans and compulsory insurance was furnished by a resolution from Rhode Island calling upon the American Medical Association to restudy its decision that an attending physician be not required to certify to an illness in connection with recovery of money lost by virtue of illness. The reference committee to which the matter was referred believed that the position of the American Medical Association in the matter should be that the attending physician sign certificates of illness as required, but that the whole problem be restudied in the light of changed conditions pertaining to such matters.

The Medical Care of Veterans was brought to the attention of the House of Delegates by the Committee on Postwar Medical Service in a recommendation that since the reorganization of the Veterans Administration, under Major Paul R. Hawley, the American Medical Association endorse the establishment of a Medical Corps. The feeling seemed to be rather general that the Veterans Administration is in a position now to organize a medical corps of sufficiently high standing to warrant recognition by the American Medical Association. A resolution was introduced by the Michigan delegation, detailing the plan of Michigan State Medical Society for caring for veterans, organized by the Society, recommending the plan to the various state associations and urging its adoption as a move in the direction of efficiency and uniformity. The reference committee having the resolution in charge, changed the resolution so as to recommend that "medical societies in each state where no plan is now in effect proceed at the earliest possible moment to adopt a program suited to their particular needs and requirements and designed to fulfill the medical responsibilities of the Veterans Administration to the veteran in the closest conformity to the principles of good medical practice." The whole proposition is that the medical profession of the country join the Veterans Administration in setting up a plan or plans looking to the medical care of veterans at home, except in those cases where hospitalization is required. Some state medical associations can, through their ownership or connection with prepayment plans of medical service, enter into contract with the Veterans Administration, as witness the Michigan Plan, whereas other state associations or societies, by virtue of their respective charters, cannot do so. This fact evidently presents a complication which is to be overcome, in view of the acknowledged advisability of providing for the care of veterans by their respective family physicians.

A Wisconsin delegate introduced a resolution which would provide that any physician honorably discharged from military service, who has graduated from an approved medical school in the United States with the degree of doctor of medicine, be allowed to practice medicine in any state, without regard to state lines, or without the necessity of taking examinations or entering into reciprocal negotiations. The resolution was not passed. Nothing could be done about such a matter, in view of the fact that the practice of medicine is regulated by police powers reserved to the states. State lines can be broken down in such matters only under such conditions as obtain in the armed forces. Obviously, when a medical officer leaves the armed forces, he cannot further take advantage of such a privilege.

The Committee on Postwar Medical Service was authorized to set up the American Medical Association *Bureau of Information* on a permanent basis. Thus far it has been a matter of assistance mainly to the returning medical officer. It is thought that the same data and the same information will be of great assistance to the Committee on Rural Medical Service, and to all who need to know something of suitable locations for the practice of medicine, and to those who are in need of the services of physicians. It will be understood that the State Medical Association of Texas has a similar setup, and has rendered this type of assistance all along. It will continue to do so.

Pursuant to a resolution from Ohio, each state medical association has been asked to assume leadership in the development of adequate *Mental Disease Programs* within its boundaries, and to coöperate with other states in stimulating public interest and support of such programs.

Through adoption of a resolution from New York, a change in the *Federal Workmen's Compensation Act* was requested, to the end that insured persons under this act may be treated by the "doctors of medicine" of their choice. The original resolution had said "physicians" of their choice.

A resolution from New York, after amendment, was adopted, declaring that, in adoption of the *Constitution of the Health Organization of the United Nations*, the care of the sick and the social organization related to the practice of medicine be considered problems of concern of the individual nation and not problems for determination by the Health Conference or organization of the United Nations.

Traffic Accidents again attracted the attention of the House of Delegates. It has been so at every meeting for some years. Physicians are urged in a resolution from the Section on Laryngology, Otology and Rhinology, to equip their cars with emergency aid devices and by precept and example assume the leadership in national safety on the highway.

Complaint was made that in many industrial plants, *Non-Medical Personnel* is employed for the detection and management of visual disorders. It was resolved that the House of Delegates "recommend to industry through the Council on Industrial Health that ophthalmologists be consulted respect-

ing the solution of all problems affecting the eyes of workers."

A resolution from Oklahoma called upon the American Medical Association to establish a *Council or Bureau on Medical History*, "committed to the task of discovering sources, accumulation and preservation of historical data, and possibly the periodic publication of historical studies of interest to the members of the Association or of value to the public" and to "coöperate with medical schools in the planning of departments or courses in medical history and with the state medical associations interested in local medical history." The House of Delegates thought it would be quite sufficient unto the occasion that the "various scientific sections incorporate in their programs occasional papers dealing with the history of medicine; that *The Journal* be encouraged to solicit papers pertaining to this subject and that the Board of Trustees be asked further to give consideration to the establishment of some suitable committee to encourage medical schools and state and county medical societies to take cognizance of the need for this educational activity."

Failure of the *Surgeon General of the United States Army* to receive rank comparable with that of the Surgeons General of the Navy, and other services or branches of the armed forces, was called to the attention of the House of Delegates from New Jersey. The decision was that a committee be appointed to "inquire into the general situation of the military rank accorded doctors of medicine during World War II."

A resolution was introduced at the instance of the Conference of Presidents and other Officers of State Medical Associations, calling upon all medical associations not already maintaining full-time headquarters, to establish such offices, with all possible dispatch, in accordance with the need and financial resources of the associations concerned. The House of Delegates decided that while it was "highly desirable for each state association to maintain a full time headquarters office, this decision should be left to such associations."

A resolution from the Section on Anesthesiology sought to bring up the Banquo's ghost of *Who Discovered Anesthesia*, and settle the matter by according the honor to Massachusetts. The effort created a flurry, but it was rather expeditiously decided that the whole matter should be tabled, which happened promptly.

A resolution from the Section on Anesthesiology declaring that the presentation of bills and the collection of private fees for medical services by other than recognized physicians, in connection with the *Practice of Anesthesiology*, be established as evidence of the practice of medicine, was promptly tabled. There was no disposition to evade the issue as to whether the practice of anesthesiology is the practice of medicine. Rather, it seemed that no one could see the point in passing the resolution as written.

A resolution from the newly created Section on General Practice of Medicine called upon the House of Delegates to voice its approval of the establishment of *Sections on the General Practice of Medicine* in the various states and county societies that are a part of the American Medical Association, and in the hospitals approved by the Council on Medical Education and Hospitals. The resolution was adopted, except for that part referring to hospitals, which part seemed rather beside the point so far as the American Medical Association was concerned.

A resolution from North Carolina called for review, clarification, and *Revision of the Principles of Medical Ethics* of the American Medical Association. The resolution was adopted and the matter referred to the Judicial Council, with instructions to act. It will be recalled that this problem has been almost constantly before the House of Delegates now for a number of years. There is no doubt but that the document needs amending, but not in the way most of the advocates of such procedure would have it done. Most doctors look upon the Principles of Medical Ethics not as "Principles," but as "laws," or "rules and regulations," or "statutes." It is none of these things. It is like the Ten Commandments. The only "Principles" ever amended so as to bring in any appreciable amount of detail, is that pertaining to Contract Practice, and it must be said in all fairness that the Principles pertaining to Contract Practice have been made more understandable and less controversial by the explanatory amendments added a few years ago. It is the hope and expectation of those who know what it is all about, that some helpful changes can be added without robbing the document of any of its value as Principles.

A number of *Amendments* were proposed for the *Constitution and By-Laws* of the Association, some of which were adopted, and some of which were rejected. Perhaps the most important amendment adopted pertained to the regular sessions of the House of Delegates of the Association. This amendment provided that the House of Delegates shall meet annually, on the Monday preceding the opening meeting of the annual session, as at the present time, but that there shall be a *Supplemental Session* in the interval between the annual sessions, the time and place of such meetings to be fixed by the Board of Trustees, and that any business proper to be brought up at any regular meeting of the House of Delegates may be given attention during the supplemental meeting.

A resolution was introduced, proposing that the Council on Medical Service and Public Relations comprise an *Interim Committee* to deal with matters of policy between meetings of the House of Delegates, so that immediate action may be taken, particularly in connection with legislative developments at Washington. The reference committee having the resolution in charge, recommended that it not be adopted, for the reason that it would require an amendment to the By-Laws. According to the By-Laws, interim authority is vested in the Board of Trustees.

An amendment to the By-Laws was introduced requiring "unanimous consent for the introduction of new business not filed in proper form with the Secretary of the Association thirty days before the annual session of the House of Delegates, except when presented by the Board of Trustees, the Officers of Sections, or by instruction of constituent associations by action taken within such thirty day period." The intent of the proposed amendment was recognized at once as being excellent. There was no doubt but the proceedings of the House would be greatly facilitated were the proposal feasible, but it was felt that it would be rather "dangerous to freeze into law a requirement that resolutions must be introduced so far in advance of a session, and to prohibit the introduction of new business without unanimous consent unless these provisions have been complied with." The amendment was rejected, but it was decided that a resolution should be adopted stating that "*Resolutions should be introduced at least thirty days prior to any meeting of the House*, and that such resolutions be published in *The Journal* and in the Handbook of the House of Delegates." The Secretary of the Association was directed to advise constituent associations of this policy, and request compliance therewith to the extent possible.

A resolution was adopted which had the effect of a By-Law, in that it required the *appointment of Reference Committees* of the House of Delegates at least two weeks before a meeting of the House. The purpose of this action was, of course, to give refer-

ence committees an opportunity to study the published reports, resolutions, and the like, before the House convenes and such matters must be acted upon. No doubt this procedure will be helpful, but we would like to say parenthetically, that we will find more and more "supplemental reports" reaching the House of Delegates from officers, councils, and committees, because of the effect of the thirty-day resolution already adopted.

An effort was made to amend the By-Laws so as to *require a Fellow to subscribe to The Journal of the American Medical Association.* It was determined that the present method of handling this particular matter was as effective as the proposed new method would be, and that it would be better to let good enough alone in this particular. The amendment was adopted, however, as it clarified the section of the By-Laws concerned, but it simply provided that Fellowship shall "include" subscription to *The Journal of the American Medical Association.*

Proposals that the By-Laws be so changed as to provide for *Scientific Sections on Physical Medicine and Allergy,* were rejected, pending development of greater demand for such sections.

The By-Laws were amended so as to change the name of the "Council on Medical Service and Public Relations" to the *"Council on Medical Service."* References to that Council in this editorial have been in accordance with its designation in the Transactions.

A committee was appointed to consider and report upon a *complete revision of the Constitution and By-Laws* of the Association. The committee is to report at the next meeting of the House of Delegates, and be ready with its final report not later than the next following meeting of the House, which would be the meeting during the next annual session of the Association.

Appointment of Delegates.—It will be remembered that the House of Delegates of the American Medical Association comprises 175 members. Each of the Scientific Sections has a delegate, and the Army, the Navy, and the United States Public Health Service, each has a delegate. The other delegates are apportioned among constituent associations in proportion to the membership of each. This distribution is made every three years, and this was the third year. We had confidently expected that Texas would gain a delegate this year. It will be recalled that we formerly had six delegates. We have five delegates now. However, the apportionment was made on the basis of one delegate for each 1,000 members or fraction thereof. The total membership of the American Medical Association on April 1, 1946, was 126,835. On this basis, California, the District of Columbia, North Carolina, and Oregon, each gained one delegate, and Mississippi, Ohio, and Pennsylvania, each lost one delegate. The creation of the Section on Practice of General Medicine added a delegate, and the independence of the Philippines removed two delegates. We were lucky to hold our own.

The Secretary of the Association reported that Texas had a membership of 4,852, which was sixth in the list of memberships by states. However, Texas was shown to have 2,255 Fellows, which was eighth by states. According to the last American Medical Association Directory, Texas had 6,952 physicians, which was sixth in the list of states. It would seem that we are doing well enough in the way of membership, but are not doing so well in the matter of Fellowships. It would seem that we could do better.

The Trustees reported the Association as having total assets of $7,798,153.54. The net worth of the Association on December 31, 1945, was $7,353,889.23. The income in excess of expenses of the Association for the year was $990,708.81. The total income for the year was $1,687,452.79.

The publications of the Association, including bad debts and everything, cost $1,787,575.19.

The income from these publications was $3,253,-096.80. We mention these figures not as a comment on the Auditor's Report, but in order to show that the American Medical Association is a large and thriving enterprise.

Among the publications of the Associations, *The Journal of the American Medical Association,* of course, easily ranks first. The net paid weekly average circulation of *The Journal* in 1945, was 111,407, compared with 109,828 the year before.

Not the least important among the publications of the American Medical Association, and some think it is second in importance, is the *Quarterly Cumulative Index Medicus,* without which it would be next to impossible to conduct any orderly research into the medical literature of the world, or even our own country. Only two issues of this publication were put out in 1945, because of paper shortages. At that, 15,229 foreign language articles were indexed during the year. That is 63 per cent of the foreign articles indexed the year before. This publication cost the Association a net loss of $16,722.08, comparable to a loss of the year before of $9,131.89.

Hygeia, the periodical for the health education of the public, is now on a firm footing. It is probably the most quoted health periodical in the United States. The net paid circulation of the publication for 1945, was 143,105, as compared with 135,685 in 1944. The financial statement showed a gain of $108,214.21, compared with the figures $68,117.81 for 1944.

The nine special journals of the Association increased in circulation to a considerable extent, except *Archives of Surgery,* which suffered a small loss. *War Medicine,* of course, is out of the picture, and a new publication, *"Occupational Medicine,"* takes it place. The net income from the nine special publications for 1945, was $118,448.46, which exceeds the 1944 net income from these publications by $10,486.09.

The several Councils of the Association have functioned notably. It is not possible to present here anything like a comprehensive account of these activities, and nothing short of that would be interesting or informative.

A Highly Valuable Gift to the Library was made recently by Dr. Walter G. Stuck, of San Antonio. The gift consists of a collection of 5,054 reprints on orthopedic subjects, accumulated personally by Dr. Stuck during the past fifteen or twenty years. The reprints are, of course, of the best articles appearing in orthopedic literature of the world. The collection had been indexed by Dr. Stuck to meet best his individual needs, but decision was made to reclassify the articles in accordance with the *Quarterly Cumulative Index Medicus* as are the more than 100,000 reprints in the Library available for the Package Service. It was the desire of the donor that they be filed to render the greatest service possible. While they will be available for lending on request by subject, as are all the other reprints in the Library, each will be identified as a part of the "Dr. Stuck Collection of Orthopedic Reprints" so they may be kept intact as a unit when not

out on loan. A suitable plaque will also identify the collection to visitors to the Library.

This is the second collection of reprints received as a gift to the Library, each having been carefully accumulated by the donor. The first such collection received, much smaller but a valuable one on coccidioidomycosis, was given by Dr. Victor E. Schulze, of San Angelo.

The valuable gift reported here emphasizes again the pressing need of the Association for a fireproof building in which to house the Library. The need could not be more urgent. A disastrous fire could sweep away in one night or day a library now serving physicians all over Texas with a package service, that could not be replaced in a short period of time with one million dollars, or any amount of money. Some of the materials in the present library could never be replaced, and the reprints and journals which make possible the package service could be accumulated only over another period of fifteen or twenty years. A fireproof building is needed for the Library of the State Medical Association—not next year or some time, but now! What are we going to do about it?

The Shortage of Nurses in the United States, which before the war amounted to some 10,000 for civilian hospitals alone, has become increasingly acute with the necessity of the Army, Navy, and now particularly of the Veterans Administration, to care for war casualties. In addition, more nurses are being required by a civilian population encouraged by prepaid hospital and medical insurance and by other educational means to be more hospital and health conscious than ever before. It is estimated by the American Hospital Association that 45,000 student nurses, including the 15,000 already enrolled, will be necessary this fall to take care of the demands of the next few years. Unfortunately, drops in admission have been noticeable recently at most schools of nursing throughout the country. For example, in Texas the thirty-seven nursing schools had only 300 admissions in the spring this year as compared with 1,081 in 1941, 1,443 in 1944, and 1,137 in 1945. Some of the reasons behind this significant decrease in student admissions are the discontinuance of the U. S. Cadet Nurse Corps, which was active during the war years; the relaxing immediately following the war of efforts toward recruiting nursing students; the prevalence of attractive openings with good salaries in other fields; and the popular belief that salaries and working conditions for nurses, which in the past may not have been exceptionally pleasing, have not been sufficiently improved to warrant serious consideration of nursing as a vocation.

In line with a national campaign to educate the public with regard to the serious nurse shortage which exists, and especially to promote recruitment of student nurses for the fall enrollment, the Texas League of Nursing Education and the Texas Hospital Association, backed by the State Medical Association, Texas Graduate Nurses Association, State Organization for Public Health Nursing, and Texas State Board of Nurse Examiners, have opened a drive to publicize the advantages of a nursing career with the hope that Texas nursing schools will have a full quota of students in the fall. A meeting of representatives from the groups named above was held in Dallas in June to lay plans for concerted action. It was pointed out then that Texas physicians may be of great service to the entire field of medicine and public health by giving their united support to increasing the number of qualified nurses available to civilian hospitals, Veterans Administration hospitals, nursing education institutions, private duty, doctors' and dentists' offices, and the many other posts where competent nurses are badly needed.

Particular attention has been called to the fact that veterans, both men and women, may receive nursing education at government expense under provisions of the G. I. Bill of Rights, whether they wish to study nursing for the first time or whether they wish to complete interrupted training or to take refresher courses. It is also important to note that personnel policies and salaries are being improved for nurses at Veterans Administration and U. S. Public Health Service hospitals and that similar improvements in civilian hospitals in Texas have been recommended by the Texas Graduate Nurses Association and the Texas Hospital Association and will doubtless be adopted generally.

It is not difficult to realize that if nurses already trained cannot be persuaded to remain active, and if qualified young people trying to decide what vocation to follow cannot be induced to consider strongly the possibilities which nursing offers for service to humanity and for satisfaction and security to the nurse, the shortage will grow worse. Physicians must take a personal interest in the situation, for it directly affects them and their work. They should consistently create opportunities to encourage qualified young persons to secure up-to-date information regarding the career of nursing, and endeavor to guide them into the nursing profession.

CURRENT EDITORIAL COMMENT*

Asphyxia Neonatorum Livida.†—The prevention and treatment of this condition require understanding of the respiration of the infant *in utero* and the changes at birth. The physician's main interest is in the human fetus and newborn but knowledge is based largely on the newborn lamb and this knowledge must be applied to each problem in asphyxia neonatorum.[1]

Early in fetal life stimulation of the skin causes reflex movements which become easier to elicit and more vigorous as the spinal cord develops. At this stage even moderate anoxia depresses them. Later the forebrain increasingly inhibits these reflexes and the fetus remains still unless stimulated or asphyxiated. Then movements are violent. Such movements may arise from asphyxia of the mother, from postures which impair the uterine blood supply, or from obstruction to the cord; the movements are more noticeable when the mother is asleep, depressed circulation and respiration causing slight uterine ischemia. At this time if the asphyxia is severe the increase of reflex activity due to release of cerebral inhibition will give way to depression and abolition of all reflexes.

Slow rhythmic respiratory movements appear early and produce an inward sucking of the ribs. These movements are accelerated by violent fetal activity but not by asphyxial changes in the fetal blood. Later the forebrain stops these respiratory movements except when it is depressed by anoxia, anesthesia, or section of the brain stem.

Thus we see that in addition to the placenta, which is adapted to intrauterine respiration, there develops an adult type of respiratory system which is already coordinated with muscular activity and in which cortical control from higher centers is already established before birth.

The establishment of normal breathing at birth has several causes. The newborn is stimulated by cold. Direct cutaneous stimulation is in part responsible for the first breath. The cold and the effects of gravity combine to initiate reflex tonus which increases the metabolic rate and carbon dioxide production. Anoxia of the fetal brain caused by disturbances both to the uterine and placental circulation during the second stage of labor may depress the cerebral cortex and increase the reflex tone and the metabolism. Finally the placenta, aging and outgrown, separates from the uterus and becomes thrombosed, making the necessity for another respiratory mechanism paramount.

Any of these stimuli may start respiration in a newborn if the respiratory center is not depressed by anoxia or pharmacological agents since most infants start to breathe promptly if they are protected against anoxia during birth or depression by analgesics and anesthetics before birth.

When prevention has failed, two courses are open. Anoxia should be vigorously combated by oxygen and gentle ventilation; cutaneous stimuli to tonic and reflex muscular activity may be artificially provided. The custom of guarding the newborn against the natural stimuli of cold, gravity, and mechanical contacts is open to question. There is no experimental evidence that the infant whose medulla is adequately oxygenated needs more carbon dioxide than it produces by its own metabolic processes nor that additional carbon dioxide can combat drug depression.

Details of the central respiratory control have been described by Lumsden[2] and his work has been used to explain various common respiratory arrhythmias in the newborn. Careful study of this field will be profitable.

The foregoing discussion assumes that there is no structural damage. Brain trauma, however caused, may interfere with these mechanisms. If the trauma be in the pontine or upper medullary regions, it is liable to interfere with both respiratory and cardiovascular mechanisms, producing white asphyxia. Treatment of white asphyxia is controversial, unsatisfactory, and often tragically incomplete.

By contrast the newborn subjected to uncomplicated oxygen lack is remarkable in its tolerance and in the rapidity and completeness of its recovery when oxygen is delivered to it effectively.

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*This department of the JOURNAL presents editorial comments on current items pertaining to the science, art and practice of medicine, contributed by members of the State Medical Association and scientists closely associated with the medical profession of Texas. Invitation is hereby extended to any member of the State Medical Association of Texas to submit such discussions for this department. The discussions should not be more than 500 words in length.

†Read at the Pediatric Postgraduate Course, University of Texas School of Medicine, November 12-17, 1945.

PENICILLIN INEFFECTIVE FOR TETANUS

A clinical study of 16 cases of tetanus failed to show evidence of any beneficial effect from penicillin treatment, according to a report in the January 12 issue of the *J. A. M. A.* by W. A. Altemeir, M. D., University of Cincinnati College of Medicine and Cincinnati General Hospital.

CHOLESTEROL LEVELS IN VARIOUS DISEASES AND THE EFFECTS OF DECHOLESTERIZING AGENTS

GEORGE R. HERRMANN, M. D.*
GALVESTON, TEXAS

Atherosclerosis is the pathological process responsible for more deaths than any other single lesion. It is of most serious moment when it develops, as it frequently does, subintimally in secondary arteries in vital areas such as the coronary bed. The condition once established has always been considered irreversible, and the treatment usually recommended was indirect or palliative and associated conditions such as hypertension, diabetes mellitus, or myxedema received attention. The increasing frequency of complicated atheromatous coronary artery disease in young men with hypercholesterosis and hypothyroidism has interested me during the past decade. Some of these patients improved on thyroid extract. The older physicians and some modern clinicians have prescribed as a vascular alterative, potassium iodide, and as vasodilators, xanthine salts. The growing volume of evidence of the importance of atherosclerosis has led to increasingly intense investigation of the disease process,[1] and this present search for counteracting agents.[1, 2, 3, 4, 5]

The pathogenesis of atherosclerosis has not yet been completely established.[2] The problem has been intensely studied by the histopathologist and repeatedly attacked by the experimentalist. The relationship between cholesterol metabolism and atheromatous vascular disease has been emphasized by several pathologists and some clinicians. The experimental production of atheromatous lesions has been accomplished repeatedly in herbivorous animals[1] by the feeding of diets high in cholesterol, and the further addition of thyroid depression has been followed by atheromatous disease in carnivorous animals. The initiating factors are still not clear. The formation of excessive amounts of cholesterol and esters in the livers of cholesterol fed rabbits and the phagocytosis of excess cholesterol by the reticulo-endothelial system, the escape of heavily cholesterolized phagocytes into the circulation, and the penetration of the intima of small arteries have been demonstrated by Leary.[8] The factors that lead to the localization of such subintimal infiltration may be, according to Hueper,[7] endothelial damage and increased permeability of the arterial intima incident to local impairment of oxygenation and nutrition of the area.

Areas subjected to increased pressure or eddies, as at the bifurcations of secondary arteries especially where there is sharp angulation and areas around orifices of vasa vasorum, are apparently points of predilection for the deposition of a "soft" cushion as the body's possible effort toward compensatory protection. Hueper[7] admits that if the blood plasma is supercharged with cholesterol or lipids forming emulsions, there may be a retention of the fats in the proliferating endothelial cells. It might well be that in the presence of hypercholesterolemia and a permeable intima, small plaques may increase in size by imbibition with the ultimate development of occluding atheromata or rupture with local thrombosis. The infiltrating phagocytes containing crystalline and fluid cholesterol in high concentration in the subintimal stratum may exert pressure and mechanically produce ischemia and interfere locally with the nutrition and thus increase the irritability of the arterial wall. These pathological processes stimulate the reparative invasion of fibroblasts and angioblasts into the arterial wall, with, later, necrosis, hyalinization, and calcification.

CLINICAL STUDIES

The data recorded in table 1 are quite similar to those reported from other medical clinics.[9] The 50 normal persons average

TABLE 1.—*Blood Cholesterol and Esters in Health and Disease.*

Diagnoses	No. Cases	Total Mean	Esters Mean	Total Max.	Esters Max.	Total Min.	Esters Min.
Normals, no cardiovascular disease	50	193	153	275	202	160	120
	S. D.	+24	+22				
Atheromatous coronary artery disease with coronary thrombosis, mitral insufficiency, angina pectoris	120	254	192	500	330	180	120
	S. D.	+42	+37				
Hypertensive heart disease with and without congestive failure	76	235	183	380	272	166	122
	S. D.	+54	+37				
Diabetes with and without peripheral vascular disease	25	243	190	312	205	182	133
	S. D.	+41	+42				
Cancer	30	218	165	423	336	148	112
	S. D.	+50	+41				
Cirrhosis, reversible and irreversible	40	219	162	423	336	148	112
	S. D.	+46	+27				
Hepatitis with and without jaundice	21	239	134	372	190	148	110
	S. D.	+49	+27				
Hypo- and hyperthyroidism	20	239	177	520	410	166	97
	S. D.	+81	+65				
Syphilis	15	238	177	308	226	170	128
	S. D.	+43	+27				
Rheumatic heart disease	15	234	173	285	260	190	147
	S. D.	+36	+43				

S. D.=Standard deviation.

*With the technical assistance of Anna H. Williams, Mae S. Cox, H. Tom Leigh, and John Prewett.

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Read before the Section on Medicine, State Medical Association of Texas Annual Session, Galveston, May 7, 1946.

slightly higher than usual because of the inclusion of several in which the basal metabolic rates may well have been found low if they had been determined. The 120 patients with definite evidence of coronary thrombosis showed the highest averages: total cholesterol plus 33 per cent, cholesterol esters plus 26 per cent; the majority of individual levels of lipids were high, but there were some few with low normal values. The 76 patients with chronic hypertensive disease showed plus 23 per cent and plus 27 per cent mean levels. Many of these had myocardial insufficiency probably due to coronary atheromatosis. The hypertensive patient without the tendency to superimposed atheromatous disease is a rare person.

The 25 patients with diabetes were, for the most part, sugar free and under good control, yet the mean values were high, plus 25 per cent and plus 26 per cent. The 30 cancer patients averaged slightly above normal, plus 13 per cent and plus 8 per cent, as did also 40 patients with cirrhosis of all types, with levels of plus 13 per cent and plus 11 per cent. The 21 patients with hepatitis, most of whom had jaundice, showed high total mean cholesterol levels of plus 22 per cent, but subnormal values for cholesterol esters, which may be taken as an index of the disturbed state of the liver.

Thyroid disease in the series of 20 cases gave high mean cholesterol values, plus 24 per cent total cholesterol, but only plus 11 per cent values for cholesterol esters, again suggesting liver damage. In general, hypothyroidism gave high values, but this was not invariably so, and in several older patients, hyperthyroidism was also accompanied by high cholesterol levels. Not included in this case series as thyroid disease were 15 of the 120 cases of coronary thrombosis which occurred in young men with hypercholesterolemia and lowered basal metabolic rates. Most of these were decholesterized with thyroid extract in small doses over long periods of time, but an occasional case was refractory.

Patients with chronic syphilis and chronic rheumatic fever showed plus 23 per cent and plus 11 per cent and plus 21 per cent and plus 13 per cent values for total cholesterol and cholesterol esters, respectively. Many of these had associated congestive heart failure, but some, without myocardial insufficiency, had high total cholesterol and cholesterol ester levels.

BLOOD AND TISSUE CHOLESTEROL CHEMISTRY

Cholesterol, the highly complex, unsaturated, monohydric alcohol $C_{27}H_{25}OH$, is related to fat only in that it forms a series of esters, organic phosphate salts with the common fatty acids. These are found throughout the animal organism, particularly in blood, bile, milk, liver, kidney, adrenal tissues, ovaries, testes, skin, and egg yolk in high concentration. Man can synthesize cholesterol from acetic acid, but most of it is probably gotten exogenously from foods. The reticulo-endothelial system probably plays an important role in the metabolism of cholesterol, most of which is conjugated in the liver and excreted in the feces. Any excess is seemingly handled with difficulty. Some is utilized by the endocrine system which regulates the levels to some extent. Degradation of cholesterol during hormone synthesis, especially progynon A, is considered to be a source of carcinogenic substances.[10] Cholesterol, some of which is free and most of which is esterified, however, seems to be deposited in pathological processes, particularly in fatty degeneration and in atheromatosis.

Blood cholesterol levels, both the total and the esters, and the phospholipids vary some from time to time in a given normal person, but the limits are such that comparable data may be obtained and general trends in lipid metabolism may be followed[9] even though all fractions of the serum lipids vary widely. The relative proportions of certain constituents, such as the ratio of the free to the total and of cholesterol to lipid phosphorous, are quite restricted in their variability. Repeated observations during the course of study and the calculation of interrelationships are most important. Only extremely abnormal single observations are of significance.

CLINICAL AND EXPERIMENTAL OBSERVATIONS

A large series of determinations of total cholesterol, cholesterol esters, and phospholipids in the plasma of normal persons and patients with various diseases have been made in an effort to establish general trends. A number of these patients were treated with various decholesterizing procedures, such as low fat diet, potassium iodide, thyroid extract, alcaucil, berenjena, choline, methionine, and inositol, and the analyses were then repeated.

Several series of old hens with naturally occurring subintimal atherosclerosis have been simultaneously studied with the same objective in mind.[5] Some definite evidences of decholesterization have been demonstrated in these experimental studies.[5] The blood and tissue levels of lipid are high in old hens of high egg producing stock that have been kept on a high fat (4.5 per cent) and protein (20 per cent) laying mash diet such as purina.

Choline, methionine, inositol, and berenjena have been successful in considerably reducing the blood lipids in the aorta, heart muscle, and liver[5] after four to twelve weeks.

These findings suggested that the decholesterizing agents in some way contributed to the utilization of the lipids in the blood and to the mobilization of lipids from abnormal depositions in tissues, and the possible use of the degradation products in the body economy. The lowering of the levels in the plasma may facilitate the transfer from plaques through the intima as has been suggested to me by Professor B. M. Hendrix.

DECHOLESTERIZATION STUDIES

The possibility of accomplishing decholesterization of tissue deposition was suggested by a mass of experimental proof that has been abstracted from the biochemical researches of Best, Dragsted, Entenman, Montgomery, Chaikoff, Du Vigneaud, McHenry, Patterson, and others.[6] The lipotropic factors, such as pancreatic extracts, lipolysin and lipocaic, choline and methionine, have been found to be effective in the fatty cirrhosis that results from the nutritional defect incident to alcoholism. Confirmation of this and a brief survey of the literature and an analysis of a series of cirrhosis cases was published in this JOURNAL by Herrmann and Rockwell.[6]

These experiences with lipotropic agents capable of mobilizing lipids from the fatty liver led me to wonder if similar effects might not be accomplished in cases with subintimal fatty depositions of atheromatous arterial disease. Of course, one could not expect such prompt dramatic results, for the aorta is not of the same high order of metabolic activity as the liver. However, the abnormal depositions are known to be chemically quite similar and the investigations therefore seemed justified.

THERAPEUTIC APPROACH

Atheromatosis has been regarded as a permanent condition, once established, and highly refractory to treatment. There has been no rational therapeutic precedure for atherosclerosis. Prophylactic measures against the atheromatous degenerative processes are always recommended, but no specific method has been established. A clinician who sees great numbers of patients with evidences of coronary atheromatosis cannot help being impressed by the hereditary factor, the type of person afflicted, and the similarity of habits of the victims. Excessive use of tobacco and high intake of rich foods, dairy products, and animal fats seem to contribute. It is quite possible that the ability to metabolize cholesterol is individual and is very low in some types of persons after infancy and childhood. A few may retain and may use throughout a long life the effective mechanisms of infancy for the efficient handling of dairy products. The yolk sac is rich in cholesterol, and milk, cream, butter, and fat meats are likewise, and these are foods for the very young. Man is about the longest lived animal that continues on a high intake of cholesterol and rich animal food products into adult life, at the same time exposing his vascular system to toxic agents and strain. The old saying that some men dig their graves with their teeth may well be true. Combinations of many factors most likely contribute, but among these must be considered hypercholesteremia.

DECHOLESTERIZING REGIMES

A Low Fat Diet with potassium iodide was used in 13 patients with atheromatous disease, and blood cholesterol, cholesterol esters, and phospholipids were determined before, and, in some cases, after one to two months and, in others, after about one-half to about one year. Reduction in total and esterified cholesterol levels amounted to from 5 and 3 per cent to 23.6 and 14.5 per cent with an average of 15 and 9 per cent.

Thyroid Extract was prescribed in daily doses not to exceed 100 mg. per day in 18 patients with very high blood lipids, and all but 3 had atheromatous coronary disease and basal metabolic rates of —30 per cent to —11 per cent. Two showed 45 per cent and 31 per cent lowering of total and esterified cholesteral levels, respectively, after 14 months; 8 showed decrease of 30 to 25 per cent in twelve months; 2 showed 25 and 18 per cent after eleven months, and a third of the patients showed only 7.5 and 5 per cent reduction after ten to six months of thyroid extract therapy.

Choline was administered in 1 Gm. doses three times daily to 35 patients for periods of one month to three and three-fourths months, an average of two months, with an average of 20.5 and 18.5 per cent reduction in cholesterol totals and esters. Three patients showed actual rises after beginning to take choline; usually the levels dropped upon continuation of the treatment. The general tendency was toward lower levels, but usually only after six weeks of treatment, and thereafter there were lesser grades of change.

Methionine in 0.5 Gm. doses three times daily was used in 4 patients for periods of two to four weeks with average reductions of 15 and 10 per cent of cholesterol and cholesterol esters, respectively. One patient, however, showed rises of 33 and 34 per cent.

This amino acid has probably been used in too small a dose and more studies are necessary.

Inositol in 0.5 Gm. doses four times daily, a daily total of 2 Gm., was administered to 9 patients for an average of twenty-five to thirty days with an average reduction of 14 and 13 per cent of cholesterol and cholesterol esters, respectively. One patient showed no change whatsoever in levels after a month of treatment. These findings warrant more extensive study.

Alcaucil, a powder of Cynara Scolymus, was given in 1 Gm. doses three times daily to 10 patients with high blood cholesterol levels with satisfactory results. There was an average lowering of the blood total cholesterol and cholesterol esters of —24 per cent and —23 per cent respectively, in 7 cases, no change in 2 cases, and a rise in 1 case.

Berenjena, a powder of Solanum Melongena L., has been administered in 1 Gm. doses to only 4 patients with hypercholesterolemia with moderate effect in 2 and very little effect in the other 2, giving rather low average results of 11 and 8 per cent reductions, respectively, in total cholesterol and cholesterol esters.

SUMMARY

It is evident that gradual decholesterization may be accomplished by the sharp restriction of the patient to a low *fat diet* and by giving potassium iodide and thyroid extract over a period of months or years.

More effective and more rapid decholesterization follows the use of *choline, methionine, inositol, alcaucil, and berenjena.*

The lipotropic agents cause no disagreeable secondary effects. The patients with rare exception have reported feeling better with a reduction of the frequency and the severity of distress or pain in the chest.

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ABSTRACT OF DISCUSSION

Dr. James A. Greene, Houston: Dr. Herrmann is to be congratulated upon the very excellent presentation and the different approach to an old subject. There are a few points, however, that I think should be emphasized.

In the first place it was shown by Newburgh and Altshuler that a high fat diet did not produce arteriosclerosis in their patients any more frequently than in persons with diets of average composition. Elmer Sevringhaus at Wisconsin confirmed their observation. It is known, however, that obesity has been thought to be a very definite factor in the production of arterial disease. A few years ago during the study of 300 cases of obesity, 66.67 per cent of these people had hypertension, which was far greater than that of the average run of the population.

I have observed recently that some diabetic patients with vascular disease appear to have a disturbance in the oxidation of dextrose and that these patients do better when they are placed on a low fat, high carbohydrate diet.

Dr. Herrmann, closing: I wish to thank Dr. Greene for his discussion and kind remarks. I cannot agree that proof has been furnished that the high fat diet does not contribute to hypercholesterolemia and to atheromatosis.

The state of the vascular intima is probably the most important factor in the local development of a subintimal atheroma but hypercholesterolemia is the next most important factor and it is apparently amenable to treatment. We seem now to have a method of attack even though we do not yet know the enzyme system involved in fat metabolism.

The finding of a high blood cholesterol level calls for decholesterizing agents.

I wish to acknowledge my indebtedness to Professor Byron M. Hendrix, head of the Department of Biochemistry, University of Texas Medical Branch, for much help and encouragement during the progress of these experimental and clinical investigations.

POISON REACTION FROM 'COLD WAVE'

An acid used in the process of hair curling known as a "cold wave" has been found to produce symptoms of poisoning in allergic and anemic persons, according to Lawrence H. Cotter, M. D., of New York.

Writing in the June 15 issue of *The Journal of the American Medical Association,* Dr. Cotter, who is from the Department of Medicine, College of Physicians and Surgeons, Columbia University and the Presbyterian Hospital in New York, says that the "cases in which a toxic reaction has been observed appear to be on the increase."

Experience with patients having thioglycolic acid poisoning indicates, the author says, that "persons suffering from allergies and anemias are the most likely victims, but the acid has an established affinity for the protein molecule, and liver damage to some extent may be anticipated from prolonged exposure in any individual." However, in the majority of cases recovery occurs without permanent liver damage when the exposure is promptly terminated.

Some of the major symptoms noted among the patients have been swelling of the face, arms, and legs, appearance of an itching rash, and loss of hair.

INFECTIOUS HEPATITIS

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This is a report of 52 sporadic cases of infectious hepatitis observed during 1943-1945. The study was undertaken to compare the clinical features of the sporadic cases with those of epidemic nature reported in the literature. All cases to which serum, drugs, or infection might be considered a contributing factor were eliminated from this study.

The disease has been known for a long period of time; in fact the literature has various synonymous terms for this disease, some of which are acute infectious jaundice, acute infectious hepatitis, epidemic hepatitis, acute catarrhal jaundice, and epidemic catarrhal jaundice. Only recently have these diseases been considered a single clinical entity. Authors have not agreed on a uniform title. The term epidemic jaundice is not justified as many cases are mild and never develop icterus. Epidemic hepatitis is a term first suggested by Meulengracht to describe more accurately the condition previously referred to by Virchow as acute catarrhal jaundice. But since the disease has been shown to be caused by an infectious agent and since it occurs sporadically in civilian life and not always in epidemic form, the term acute infectious hepatitis appears more descriptive.

In civilian life this disease has been described as a disease of childhood. In wartime, however, like other childhood infections, it becomes predominantly a disease of young male adults. There have been numerous reports during the past eighteen months of the occurrence of this disease in epidemic form in the armies and navies of warring nations. During the Civil War there were 22,569 cases with 161 deaths, in a total of over 2,000,000 troops. In the Boer War there were 5,649 cases. It is known to have occurred as early as the War of 1812. Epidemics were reported in both the Spanish-American War and World War I.

ETIOLOGY AND TRANSMISSION

It is generally agreed that the causative factor in this condition is a filtrable virus. The German workers Liede and Lutz[6] reported culturing a filtrable virus on the chick embryo which they considered the probably causative agent of infectious hepatitis. This work has not been substantiated by other investigators.

During 1942, 14.7 per cent of the persons vaccinated on the Islands of St. Thomas and St. John developed hepatitis, following inoculation with a specific lot of pooled (yellow fever vaccine) serum. Oliphant and coworkers[11] using the same serum were able to produce hepatitis in 24 per cent of volunteers. In a significant number of cases they also transmitted this disease from one of these patients to another group of volunteers. They found that the hepatitis-producing factor in the vaccine was filtrable, resisted storage in wet serum for long periods at 4 C., and was resistant to heat in the dried state at 56 C. for thirty minutes. It was inactivated by ultraviolet irradiation. Havens and others[6] showed this hepatitis-producing factor is transmitted by the sera, whether inoculated subcutaneously, intravenously, or intramuscularly; also intranasally and orally. They further showed that extracts obtained from urine and stools when given orally produced the disease.

The British workers[3] have also been able to transmit the infection by giving orally ether-treated fecal suspensions obtained from patients in the early stage. Findley and Martin[4] were able to transmit the disease from nasal washings.

Neefe and others[10] were not able to transmit the disease with the excreta from cases of hepatitis of serum origin. This would indicate that the causative agent either was not present in the feces of these patients or was not active when administered by the oral route. This observation offers a possible explanation for one of the puzzling differences between serum and infectious hepatitis, namely, that no epidemics have been reported originating from patients contracting the disease by means of serum inoculation.

The incubation period of the different types has been variable. Generally the period required for the symptoms to develop was much greater in those receiving serum containing hepatitis-producing agents (50 to 70 days) than those receiving the factor orally (20 to 22 days).

One of the most significant factors revealed in this study was that 25 per cent of the patients admitted gave a history of excessive consumption of alcoholic beverages, varying from one to several weeks previous to the onset of the initial symptom. Laboratory studies on admission revealed a reduction in the total protein with elevation of globulin at the expense of albumin in many of these cases, but because of the length of time from onset to hospitalization, it was impossible to determine if this reduction occurred before or after the disease began. The work of Miller and Whipple[8] showed that liver injury due to chloroform anesthesia increased in extent as the body stores of

From the Plains Clinic.

protein were depleted. Messinger and Hawkins[7] found that carbohydrates or protein-rich diets protected dogs' livers against injury by arsphenamine. The protective value of carbohydrates was less than protein. It has been further shown by Miller and others[8] that the sulfur-containing amino acids methionine and cystine are the specific factors for the protective action of protein. It is well known that excessive drinking results in the loss of appetite with low food consumption, which would ultimately result in a low protein reserve. There may be a direct relationship between protein metabolism and resistance in sporadic cases of infectious hepatitis. Other factors found to be predisposing to this infection were chronic illness and diarrhea.

A pathologist developed the disease forty-seven days following an autopsy on a patient who had died of infectious hepatitis. Another case was that of a dentist who had examined and treated a patient with hepatitis thirty-two days prior to the onset of his infection. His onset was of a respiratory nature, with dryness of his throat and a dry cough; that of the pathologist was gastro-intestinal, with nausea, vomiting, and anorexia. There may be some relation between the mode of entrance of the virus and the type of symptom at the onset before the disease is localized in the liver. As suggested by Barker and others[1] it is first a systemic disease.

CLINICAL PICTURE AND COURSE

This report deals specifically with 52 cases. The age distribution was between 5 and 64 years of age with an average of 25.4 years. All the patients were male with one exception. The age and sex picture is not as conclusive as it appears, inasmuch as the majority of admissions in this hospital were young male adults, but it demonstrates the fact that the disease may occur in any age group.

It is generally accepted that the annual peak of incidence in the area north of the Equator is late autumn, and the peak south of the Equator late spring. Nevertheless, this study shows no appreciable seasonal difference. December was the only month in which there was no case reported, and September was the highest with 17 per cent.

PRE-ICTERIC STAGE

There were only 2 patients in this series who reported to the hospital in the pre-icteric stage. They were suffering from a chronic disease and developed the infection while in the hospital. The chief complaint of the other patients was icterus. The average time from the onset of the initial symptoms to admission was eleven days. The shortest was one day; the longest, eighteen months. The latter occurred when a man refused to quit work for treatment and thought he could "wear it out." In general, the most constant prodromal symptom was nausea and vomiting, and over one-half complained of pain in the right upper quadrant. A small percentage (10 per cent) began with respiratory complaints. The onset of symptoms preceded the appearance of jaundice from one to eighteen days with an average of six days. The characteristic symptoms were malaise, headaches, lassitude, abdominal discomfort, and anorexia. Generalized muscle aching was a prominent feature. Because of the delay from the initial symptoms to admission, only a few patients had fever, but the vast majority gave a history of chilly sensations, accompanied by fever. Transient loose stools were frequently noted at the onset.

The conditions which are most frequently confused with hepatitis before icterus appears are: upper respiratory infection, atypical pneumonia, influenza, and infectious mononucleosis. Repeated physical examinations and laboratory studies may be necessary to make the correct diagnosis. In some cases it may be necessary to wait until evidence of liver damage appears before diagnosis can be certain. There may be a combination of hepatitis with one of these conditions as was seen in 1 case which began with a primary atypical pneumonia.

STAGE OF ICTERUS

Most of the patients were first seen in this stage. One of the most important observations at this stage was right upper quadrant pain associated with localized tenderness, which at times simulated an acute abdominal condition. An enlarged and tender liver which was almost invariably present tended to confirm the diagnosis.

This period of rising icterus was remarkable in that the patients were relatively symptom-free. Clay-colored stools were noted in about half. Pruritis was infrequent. Characteristically, the maximum elevation of icterus was reached from two to fifteen days with an average of one week. The defervescent period began shortly after the maximum icteric level was reached. The duration of this period was variable, the most important features being the time that had elapsed before institutional therapy, the height of the icterus, and the type of treatment employed. The average duration of jaundice was between two and eight weeks with an average of five weeks. This index provides in a general way the index to the rate of recovery. Of interest is the fact that the pa-

tient who gave a history of the disease for eighteen months required the longest period of hospitalization, four months. Fat intolerance was the most constant symptom during this period. The stage of recovery was relatively uneventful with prompt disappearance of the physical symptoms well in advance of the jaundice.

In the icteric phase care must be observed to rule out all other causes of jaundice. The most important of these is Weil's disease, amebic hepatitis, malaria hepatitis, hemolytic jaundice, and obstructive lesions of the biliary tract. Homologous serum jaundice and arsenical hepatitis are very similar and cannot be differentiated either clinically or pathologically from acute infectious hepatitis.

LABORATORY STUDIES

The laboratory observations were variable in the early stages of the disease. One of the most constant findings was a mild leukopenia, usually associated with a relative lymphocytosis. The lymphocytosis was atypical and similar to that of infectious mononucleosis.[9] The urinalysis was uniformly normal except that urobilinogen was often absent in the period of rising icterus, but then appeared in abnormal amounts. In the icterus stage, which is characterized by an increase in serum bilirubin, the degree of icterus was a variable factor, ranging from 8 units to 110 units, with an average of 37.4 units. The period of regression to normal varied from two weeks to four months, with an average of five and a half weeks. This period of regression seemed to be related to the lapse of time from initial symptoms until the institution of therapeutic measures. There was almost a universal reduction in serum albumin with increased serum globulin; also 22 per cent had a reduction in total protein.

Various laboratory procedures and tests of liver function are useful in the diagnosis of hepatic disease and the evaluation of the degree of hepatic dysfunction. The bromsulfalein, galactose tolerance, and Hanger's cephalin flocculation tests[4] were used in this series. The results were not generally uniform, but it may be said that clinically these tests, which are designed to measure the ability of the liver to perform certain of its chemicophysiological functions, reveal varying degrees of impairment.

PATHOLOGIC STUDIES

The opportunity was afforded to observe, in the same patient, the liver in two pathologic stages, the acute and also the subsiding, at which time biopsy specimens were removed for study. The first examination revealed a small firm liver with an indurated surface. There was no evidence of inflammation of the common duct nor of the hepatic ducts, nor was there any evidence of lymphadenopathy. The gallbladder was also normal. A biopsy at this time showed a histological picture of granular and hyaline degeneration of the parenchymal cells within the liver lobule. There were a few polymorphonuclears, leukocytes, and monocytes in the periportal areas. Three months later another laparotomy was performed, and at this time the gross picture was very similar to the previous one, and the biopsy showed regenerative changes taking place within the liver lobule.

TREATMENT

In patients with acute infectious hepatitis, optimum care and treatment of the patient depends largely upon the early recognition of the condition with prompt hospitalization. Nutrition and fluid balance should be maintained during the acute phase, and as soon as the patient is able to retain it he should be provided with an adequate diet. Special emphasis should be made upon restriction of activity during convalescence.

In the acute phase the patient should be kept strictly in bed with maintenance of nutrition and fluid balance, especially if vomiting is severe and intractible. This may be carried out by means of frequent infusions with glucose and protein hydrolysate (Amigen*). Limitation of fat in the diet is desirable, although its complete elimination detracts greatly from the appeal of the diet to patients who require encouragement to eat. This may be overcome to some degree by the use of small amounts of cream and butter. All diets were fortified, especially with protein and carbohydrates. Vitamin supplements were used, and in 1 case in which the prothrombin time was prolonged, vitamin K was given parenterally with beneficial results. Alcoholic beverages were strictly prohibited for a period of several months after recovery.

Stokes and Neefe[12] recently reported that gamma-globulin given during the incubation period may abort or decrease the severity of the disease process. Although it was not used in this series, it would certainly seem worthy of a trial, since no other specific therapeutic measures are available.

During the period of convalescence an adequate diet was maintained. Most of the patients complained of fatigue and frequently of a heavy feeling in the right upper quadrant. No recrudescence occurred, probably because no great haste was made in

*Trade name for product of Mead Johnson & Company, Evansville, Ind.

granting privileges for activity. Resumption of full activity was allowed after physical laboratory examination revealed complete recovery of liver function. This resumption of activity was on a gradually increasing scale, allowing two to four weeks to accomplish full activity.

SUMMARY AND CONCLUSION

A series of 52 cases of acute infectious hepatitis occurring sporadically over a period of two years have been reviewed. This disease occurs endemically in civilian life. It has been shown that this disease is similar to, if not identical with, that occurring in the armed forces in epidemic form.

One of the most important factors is early recognition with prompt institution of treatment. Factors influencing the onset of this disease were found to be alcoholism, diarrhea, and chronic illness.

Dietary factors in recovery are thought to occupy a place of prime importance, especially increased protein intake.

Deleterious effect of exercise and beneficial effect of rest is a factor in the absence of relapses in this series. The disease may appear to be more serious in the armed forces than among civilians partly because of circumstances of combat duty, but it is also the result of a failure to recognize the clinical picture of the disease and its sequelae in civilian practice.

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WAR WOUNDS OF THE LIVER

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The war recently ended afforded an opportunity for the critical appraisal of the surgical treatment of liver wounds. In discussions based on World War I experience, hemorrhage from liver wounds usually was considered as the chief cause of fatalities and complications.[1, 3, 4] Our observations as medical officers in the Army in World War II, however, pointed to the complications of bile leakage and hepatic parenchymal damage as of greater significance. These observations led us to alter our mode of surgical care, as will be described. A significant reduction in mortality rates compared with World War I figures was obtained (table 2) despite evidence that wounds encountered by us in World War II often were more serious, involving other abdominal viscera more frequently. We feel that improved surgical handling should receive a major share of the credit.

In the Mediterranean and Southern European campaigns of World War II, a large percentage of the battle casualties sustaining liver wounds were given initial surgical care in field hospitals or other forward hospitals by auxiliary surgical teams. Because of this circumstance it is felt that the collected experiences of the Second Auxiliary Surgical Group with wounds of the liver for the period January 1, 1944, through May 8, 1945, warrant careful analysis.

The data presented are based on a series of 829 patients with wounds of the liver, taken from a group of 3,154 abdominal and thoraco-abdominal cases for the above period. There were 3,066 records sufficiently complete for our analysis. The data apply necessarily only to the course in the forward hospitals where initial surgery was performed. Sufficient information pertaining to the subsequent histories of these patients in hospitals to the rear is not available for analysis at this time. Some of the clinical records were incomplete in various details. Certain charts and tables have been based, therefore, on less than the total cases studied.

INCIDENCE

Table 1 presents the over-all incidence (and mortality) for wounds of the liver and biliary tract in our series, 1944 and 1945.

*Formerly members of the Second Auxiliary Surgical Group, Medical Corps, U. S. Army.

Read before the Section on Surgery, State Medical Association of Texas, Annual Session, Galveston, May 7, 1946.

The route of injury was abdominal in 46.2 per cent of these liver wounds and thoraco-abdominal in 53.8 per cent. Furthermore, 59.2 per cent of liver wounds were complicated by coincidental wounds of other abdominal viscera.

It is interesting to compare the incidence of liver wounds in this series with available statistics for World War I (table 2). Restricted to liver involvement in abdominal wounds only, the World War I incidences of 13.3 per cent and 16.8 per cent, respectively, are seen to agree fairly closely with our incidence of 17.1 per cent.

TABLE 1.—*Incidence and Mortality of Wounds of Liver and Biliary Tract.*

	1944	Jan. 1-May 8, 1945	Total
Total Cases Abdominal and Thoraco-Abdominal Wounds	2,383	771	3,154
Total Cases Utilized	2,295	771	3,066
Total Cases, Wounds of Liver	646	183	829
Incidence, Wounds of Liver	28.1%	21.3%	26.7%
Fatal Cases, Total	193	31	224
Mortality Rate, Total	29.8%	16.9%	27.0%
Wounds of Gallbladder and Bile Ducts (liver involved in all cases)			
Number of cases	40	15	53
Percentage of All Liver Wounds	1.7%	1.7%	1.7%

TABLE 2.—*Wounds of Liver: Comparative Statistics from Two Wars.*
(Abdominal Wounds Only.)

	World War I		World War II		
	Surg. Gen. Reports[3]	Wallace British[5]	2nd Aux. Surg. Grp. 1944	1945	Total
Percentage of Abdominal Wounds with Liver Involved	13.3%	16.8%	18.5%	12.6%	17.1%
Operative Mortality of Liver Wounds	66.2%	——	34.0%	15.1%	27.9%

Comment: Although the incidence of liver involvement in abdominal wounds for two wars was quite similar, there has been a sharp drop in operative mortality rates in World War II. This comparison is only approximate since the World War I figures may not include some liver wound cases treated without operation.

MORTALITY

The over-all mortality rate for wounds of the liver in our series was 27.0 per cent as contrasted to a mortality rate of 66.2 per cent in World War I (table 2).

The number of viscera involved in association with the liver wound represented the most important single factor in prognosis. As shown in table 3, mortality was directly proportional to the number of other viscera wounded. Uncomplicated wounds of the liver had a mortality rate of 9.7 per cent. The mortality rate when the liver and one other organ were injured was 26.5 per cent. But the mortality rate rose to 84.6 per cent when the liver and four or more other viscera were wounded.

From table 4 it will be seen also that when the liver was injured in association with the colon only, the mortality rate was the greatest for any single organ-liver combination (32.3 per cent). The second most serious combination was that in which the liver and the stomach-duodenum were involved. (31.3 per cent.)

TABLE 3.—*Multiple Organ Involvement Effect on Mortality Rate of Liver Wounds.*

	1944	1945	Total
Total Liver Wound Cases	646	183	829
Mortality Rates:			
Over-all mortality	29.8%	16.9%	27.0%
Liver (uncomplicated)*	9.8%	9.5%	9.7%
Liver plus other abdominal organs (combined)	42.7%	23.0%	38.5%
Liver plus 1 other organ	29.1%	15.2%	26.5%
Liver plus 2 other organs	43.9%	25.7%	39.7%
Liver plus 3 other organs	60.0%	33.3%	54.8%
Liver plus 4 or more other organs	90.9%	50.0%	84.6%

*Liver wounds uncomplicated by wounds of other abdominal viscera. Coincidental wounds of other portions of the body may be present in such cases.

TABLE 4.—*Effect of Injury to Certain Other Abdominal Organs on Mortality of Liver Wounds, 1944-1945.*

Name of Viscera	No. Cases	Deaths	Mortality Rate %
Liver only	339	33	9.7
Liver plus stomach-duodenum	64	20	31.3
Liver plus jejunum-ileum	15	2	13.3
Liver plus colon	34	11	32.3
Liver plus kidney	77	20	25.9

OTHER FACTORS AFFECTING MORTALITY AND MORBIDITY

The location of the wound is important because of the proximity of other organs. Wounds about the hilum of the liver occasionally involved the extrahepatic biliary ducts, retroperitoneal duodenum, pancreas, stomach, colon, or vena cava. These complicated wounds carried a high mortality rate. During the year 1944, 538 records defined the location of liver wounds with sufficient accuracy for use in this study (table 5).

TABLE 5.—*Anatomical Site of Liver Wounds in 538 Cases.*

Lobe of Liver Involved	No. Cases	Percentage
Right	446	83.5
Left	73	13.1
Both	19	3.4

The extent and location of the liver wounds are of importance. However, a small penetrating wound may be followed by more serious complications, such as bile leakage or hemorrhage, than one in which a larger mass of liver tissue is involved. The majority of wounds in this series, 76 per cent, were small or moderate in size. They were described usually as lacerated, penetrating, or perforating wounds, moderate in degree. Twenty-four per cent of the group were described as "severe" wounds. The loss of liver tissue including that removed by debridement occasionally amounted to a substantial part of a lobe, rarely even the entire left lobe. Bleeding from the liver had ceased at the time of exploration (which averaged 11.3 hours after wounding) in 91.1 per cent

of the cases. In the remainder it was rarely described as severe. In no case of this series was death ascribed to bleeding from the liver during the postoperative period in the forward hospitals. It was impossible to measure the amount of bile in the peritoneal cavity. Usually some bile leakage had occurred, but the presence of much intestinal content plus exudate and blood made even a rough estimate unsatisfactory.

There are certain associated factors which may have influenced the morbidity and mortality in this group although difficult to prove statistically. The wounding agent, the time lag from injury to surgery, adequate treatment of shock, and the use of sulfonamides and penicillin all played varying roles. It is known also that the mortality in this group of cases was higher in winter months when evacuation was delayed and the incidence of pulmonary infections more prevalent.

OPERATIVE INCISIONS

Location of operative incisions in these liver wound cases for the 1944-1945 period was as follows: abdominal 47.2 per cent, thoracic 38.3 per cent, both 12.5 per cent. The incision frequently varied with the amount of visceral injury in any given case and in particular whether thoracic or abdominal viscera or both were involved. There was an increase in the transdiaphragmatic approach for the 1945 group of 14.1 per cent over the 1944 group. With increased experience the surgeons found the results to be better when this approach could be utilized. Thoracolaparotomy was performed in 7 cases. If, in this incision, the thoracic wound is extended down over the anterior chest wall into the abdomen, cutting the costal arch in its course, complications may follow. Such wounds become infected easily and tend to break down, resulting in difficult treatment problems. If the abdominal pathologic conditions encountered in a thoraco-abdominal wound cannot be handled adequately through the initial thoracic approach, we believe a separate laparotomy incision should be used rather than cutting across the costal arch.

SURGICAL TREATMENT

A tabulation was made of the various types of surgical treatment of the liver wound itself (table 6). Of all 695 cases tabulated 57.8 per cent were treated by placement of drains only, 28.2 per cent by packing, 5.3 per cent by suture of the wound plus drainage, and 7.8 per cent without local treatment. Of more significance, however, is the change in these modes of treatment with increased surgical experience. The use of drains only rose from 48.5 per cent in 1944 to 87.4 per cent in 1945, with a corresponding reduction in use of the liver pack from 34.1 to 9.6 per cent. There was also a sharp decrease in the number of liver wounds left without any treatment in 1945 though the total number of such cases was small. The trend away from packs to external drainage alone in our later experience paralleled the marked drop in mortality rate in 1945 (see table 1).

TABLE 6.—*Types of Surgical Treatment.*

	1944	1945	Total
Total cases tabulated	528	167	695
Type of treatment:			
Drain(s)	48.5%	87.4%	57.8%
Pack	34.1%	9.6%	28.2%
Suture and drain	6.5%	1.8% (3 cases)	5.3%
Suture and pack	0.95% (5 cases)	0%	.....
Muscle graft	0.15% (1 case)	0%	.....
No treatment	9.8%	1.2% (2 cases)	7.8%

TABLE 7.—*Principal Causes of Death.*

Total deaths, 224. Mortality rate, 27.0%.

	1944 %	1945 %	Total %
Shock	51.8	48.4	51.4
Pulmonary complications	17.7	12.9	17.0
Peritonitis	12.9	9.7	12.7
Renal failure	8.3	9.7	8.5
Other causes	9.3	19.3	10.7

Comment: Persistent shock was responsible for approximately half the deaths despite vigorous anti-shock treatment combined with early operation and a minimum of transportation of the patient.

Table 7 enumerates the principal causes of death. Autopsies were performed on a majority of the patients who died in the forward hospitals. This was done most frequently by the operating surgeon himself. Shock was listed as the chief cause of death in 51.4 per cent (115 cases). This diagnosis represented a state of persistent circulatory collapse despite all efforts to combat it, and none of the patients so listed survived beyond the second postoperative day. Blood loss appeared to be only one of several factors contributing to the shock. A multiplicity of factors including disturbances of cardiorespiratory physiology, overwhelming contamination of the peritoneal and pleural cavities, tissue destruction, and widespread retroperitoneal cellulitis all played significant roles.

Pulmonary complications represented the second most important group of causes of death. There were 38 such cases, 17 per cent of the total group of fatalities. Trauma to the diaphragm in over half of the liver wounds, trauma to the lung, bile contamination of pleural cavities, and prolonged ether anesthesia provided ample background for pulmonary complications.

Some degree of peritonitis existed in all

the fatal cases. When listed as a cause of death, it implied either a widespread or marked local process (such as subphrenic abscess).

Oliguria and renal failure represented the chief cause of death in 19 cases (8.5 per cent). It is interesting to speculate on the possible relationship of liver damage to renal failure though we could not eliminate transfusion or "shock kidney" as the basic pathologic condition in most of these cases.

A miscellaneous group of causes of death, gas gangrene, head injury, paralysis following wounds of spinal cord, and others, totaled 10.7 per cent (24 cases).

EXTRA-ABDOMINAL WOUNDS

Coincidental wounds outside of the abdominal cavity undoubtedly exerted an effect on morbidity and mortality in this series. These included frequent injury to the lung, occasional trauma to the heart, and, in every thoraco-abdominal case, wounds of the chest wall and diaphragm. Several instances of spinal cord wounds contributed to mortality also. The significance of peripheral wounds such as compound fractures of long bones, traumatic amputations, or head wounds could not be evaluated separately.

WOUNDS OF THE GALLBLADDER AND BILE DUCTS

Fifty-three wounds of the gallbladder and bile ducts (51 gallbladders, 2 common ducts) were included in this series and represented 6.3 per cent of total liver and biliary system or 1.7 per cent of all abdominal and thoraco-abdominal wounds. In every case, the gallbladder or bile duct wound was complicated by a wound of the liver. Because of this circumstance and the frequent occurrence of wounds of other abdominal viscera in these cases, it was impossible to evaluate their significance in the morbidity and mortality rates. In general, however, the mortality for cases exhibiting wounds of the gallbladder and bile ducts has been 30 per cent, corresponding closely to the over-all mortality rate of 27.0 per cent in liver wounds. The degree of damage to the gallbladder varied greatly. In 1 case, the fundus was partly avulsed from its bed without direct damage to the gallbladder wall. Simple suture sufficed to repair this damage. In 5 instances small wounds of the fundus were closed with purse string sutures. The balance of 47 cases was about equally divided into severely lacerated gallbladders requiring cholecystectomy and less severe wounds treated by tube cholecystostomy. One of the 2 common duct patients sustained a wound of the duct near the ampulla of Vater. This was overlooked at operation and undoubtedly contributed to the death in this case. In the other case the common duct was perforated in the hepatico-duodenal ligament. Simple suture without drainage was followed by recovery.

DISCUSSION

The large number of liver wounds encountered in this war and the frequency of complications following some methods of treatment have directed our attention to a more critical appraisal of the important problems. In the past, the chief concern in the treatment of liver wounds has been the control of hemorrhage. It is our belief, based upon this large series of cases and our own personal experiences in both forward and base hospitals, that bleeding is not the most important feature. In only 9 per cent of this large group of cases was active bleeding from the liver wounds found at the time of exploration. In 91 per cent of the cases, therefore, spontaneous hemostasis had occurred by the time of operation. Both the hepatic artery and portal vein, after entering the porta of the liver, branch rather promptly into smaller ramifications. Unless a hilar injury is sustained or a missile penetrates deeply into the liver, serious bleeding should be rare. Branches of the portal vein near the surface are larger than adjacent arteries. The pressure in the venous system is low (5-10 mm. mercury), however, and bleeding from these vessels can be controlled by temporary pressure and cigaret drainage, as will be described. In this series of liver cases only one instance of serious postoperative bleeding occurred.

It is our opinion that the establishment of adequate external drainage of both bile and products of tissue injury is the most important feature in the surgical care of liver wounds. Any method that will satisfactorily accomplish this should be followed by good results. The dry pack, so generally advocated in the literature for its hemostatic value, will not function as a drain.

Suture of liver wounds and the occasional use of a muscle graft have been advocated by some surgeons. It has been our observation, as well as that of others, however, that the bleeding caused by placement of sutures in an attempt to close a wound of the liver may exceed that which existed previously. A temporary pack, however, may be effective in checking bleeding during the operation. For example, in 1 case active oozing from a large superficial wound of the right lobe of the liver was observed at the time of operation. Dry gauze was packed against the bleeding area until the remainder of the abdominal pathologic damage was cared for.

Before closing the abdomen, the pack was removed and it was found that all the bleeding had ceased.

The number of complications of liver wounds seen in field hospitals is small when compared with those in hospitals further to the rear. A report[2] from a chest center at a general hospital offers a better indication of the frequency of these complications. In a series of 98 wounds of the liver which had received their primary operative treatment at forward hospitals, Burford found that 25 per cent presented complications. These were complications resulting from inadequate drainage and included 14 cases of subphrenic abscess, 5 cases of bile empyema, and 6 cases of intrahepatic abscesses.

A gauze pack does not function as an adequate drain. The pack, whether used alone or in conjunction with drains, tends to act as a tampon, causing pocketing of bile and exudates and formation of the complications mentioned above.

The diaphragm was perforated, of course, in all the thoraco-abdominal wounds (53.8 per cent of all the wounds in our series). The bile and exuded fluids, prevented from draining externally by the liver pack have, on occasions, forced their way through the sutured diaphragmatic wound. This has been followed by a bile empyema or biliary thoracic fistula. This complication was seen in different cases regardless of the type of closure of the diaphragm. In one instance, the lung was adherent to the suture line of the diaphragm and the bile eroded through into a bronchus. Occasionally, the bile not only eroded the sutured diaphragm, but, after reaching the pleural cavity, produced also a breakdown of the thoracotomy incision. Subphrenic pleurocutaneous-fistulas resulted. Intrahepatic necrosis, abscess, hepatitis, and bile peritonitis have all been observed in cases treated with gauze packs. A less important but significant feature is the pain associated with the removal of a large liver pack. It occasionally necessitated the use of an anesthetic, thus adding to the postoperative problem.

Secondary hemorrhage following the removal of a pack may occur. One of us (G. F. M.) observed an autopsy on a patient who sustained a fatal secondary hemorrhage following the removal of a liver pack on the eighteenth postoperative day at a general hospital. Vascular granulation tissue had grown into the meshes of the gauze and bled profusely when the pack was torn loose. The patient became exsanguinated before surgical intervention could be undertaken.

In an effort to avoid such bleeding, very early removal of the pack has been practiced in some cases with resultant premature closure of the external drainage wound. Once such a pack has been removed, it is nearly impossible to reinsert an adequate drain down to the wound site and pocketing of bile and exudate is likely to result.

For the various reasons stated above, we feel that packs should not be left in liver wounds.

The placing of the wick end of a Penrose cigaret drain to act as a clot supporting surface against a liver wound which is still oozing a little should control the situation. This also provides drainage. If large or separate wounds are present, at least two drains should be inserted down to these wounds and additional drains lateral to the liver and to the subhepatic spaces to prevent pooling of bile and exudates in these regions. All drains are delivered through a dependent drainage incision, usually placed subcostally, in the anterior or midaxillary line. This drainage incision must be at least 1.5 inches in length and cleanly incised through all layers of the abdominal wall to avoid constriction of the drains. The drains should not be brought to the exterior through the laparotomy or thoracotomy incision, since this leads to a higher incidence of wound infections and disruptions. A debrided wound tract coinciding with the usual subcostal drainage incision location may be satisfactory.

The proper removal of the drains holds as important a place in the treatment of the liver wounds as does their initial placing. The shortening must be gradual, beginning usually on the fourth and fifth postoperative day. The drains are out completely, preferably, by the tenth to twelfth postoperative day, though complete removal should be deferred until drainage has virtually ceased. Frequently such a staged removal of Penrose cigaret drains become difficult because of the adherence of the gauze wick to the liver bed. Because the free outer ends will stretch before the inner ends are moved, the sudden "give" following traction or twisting of the drains may withdraw the drains too far; fluid collections are thus likely to become pocketed in the liver region. To avoid such a possibility we use drains in which the tendency to stretch has been eliminated. This is done by simply threading surgical tape through the Penrose tubing and anchoring the tubing to it, at intervals of 3 to 4 inches, by means of silk suture. Thus when one withdraws the free outer end of the drain an inch, the inner end is withdrawn a like distance.

Rarely is a liver wound too small to be drained. It is true that some cases will not

drain bile postoperatively, but we know of no criteria by which such cases can be selected preoperatively or at operation. The size of the missile is not the all important factor. A small foreign body which cuts a main bile passage may be followed by a greater drainage of bile than a superficial liver wound of greater proportions. For this reason, we feel that all suspected liver wounds should be explored and adequate external drainage established.

SUMMARY

1. A large series of wounds of the liver representing the collective operative experience of the Second Auxiliary Surgical Group, for the period January 1, 1944, to May 8, 1945, has been studied.

2. In a grand total of 3,154 abdominal and thoraco-abdominal wound cases (3,066 records adequate for this study), 829, or 26.7 per cent manifested wounds of the liver. The derived data apply only to the period of stay in the forward hospitals where the operation was performed. These liver wounds were found divided almost equally into the abdominal and thoraco-abdominal wound categories.

3. Over-all mortality rate for wounds of the liver in this series was 27.0 per cent (table 1). Coincidental wounding of other abdominal viscera was found to be a highly important factor in prognosis. The mortality rate for wounds of the liver in absence of other abdominal visceral injury was only 9.7 per cent in contrast to a rate of 84.6 per cent when four or more other abdominal viscera had been wounded also (table 3).

4. This study and our personal experience indicate that continued bleeding from liver wounds following operation has not been a potent cause of morbidity and mortality. Bile leakage and liver parenchymal damage appear to have been factors of greater importance.

5. The traditional pack for liver wounds has been unnecessary in most cases. Its use led to serious complications.

6. Operative exploration of virtually all liver wounds with establishment of adequate external drainage is advocated as the most satisfactory mode of treatment.

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ABSTRACT OF DISCUSSIONS

Dr. Andrew B. Small, Dallas: Dr. Madding's figures on the route of injury are interesting in that they occur almost 50 per cent through the abdomen and by thoraco-abdominal route. This makes it imperative for surgeons to consider lacerations of the diaphragm in any wounds in the mid portion of the body.

Another point emphasized is that the principal cause of death is still shock. The time interval between injury and operation is not as important as the degree of shock. Dr. Madding shows a number of deaths attributed to "shock kidney." This is the result of the profound state of shock or hypotension even in the face of adequate blood replacement. These patients live four to six days and die with anuria and uremia. Autopsy shows parenchymatous degeneration of the tubular epithelium.

Packing of liver wounds is a procedure to be avoided. Except for the immediate arrest of hemorrhage, packs should not be used. Occasionally, suturing of the liver wound gives good results but by far the desired results are obtained by adequate external drainage. External drainage provides for escape of accumulated blood and bile and will prevent the serious sequelae of liver abscess and/or bile pleuritis.

When liver injuries also lacerate the diaphragm, the latter structure must be sutured. With minor chest injuries which can be treated conservatively, the diaphragm may be sutured through the abdominal approach at the same time external drainage is established. Certain parts of the diaphragm are not accessible through the abdomen and a thoracotomy must be done.

Dr. Donald L. Paulson, Dallas: Dr. Madding has presented an unusual series of wounds of the liver. I should like to call attention to bile pleuritis which may complicate a liver wound. If the subphrenic space is not drained at the time of the repair of the lacerated diaphragm, bile may break down the repair and drain into the pleural cavity through the diaphragm, resulting in a bile pleuritis. A bile pleuritis is usually sterile because bacteria do not grow well in the presence of bile. The treatment of a bile pleuritis should consist of a modified open drainage of the pleural cavity until the drainage of bile has ceased. At the same time, any subphrenic collection should be drained. Wide open drainage of the pleural cavity in the presence of a bile pleuritis is unnecessary and may lead to a long period of pulmonary invalidism. Later, after bile drainage has ceased, negative pressure drainage of the pleural cavity may be instituted, but a decortication may be necessary if the lung does not expand completely.

Dr. John M. Thiel, Galveston: I would like to ask Dr. Madding whether or not in that small percentage of cases of liver wounds still showing active bleeding at the time of operation, he had the occasion to use fibrin foam. During the past year or more we have used it on occasions in the operating room of the John Sealy Hospital for the control of bleeding from various sources and have found it to be quite effective.

Dr. Madding, closing: I would like to thank those who discussed this paper. In answer to Dr. Thiel, fibrin foam was not available for our use in the treatment of these cases. I should again like to emphasize that the control of bleeding in liver wounds is not the important factor in their care, but establishment of adequate external drainage of accumulated blood and bile and the products of liver destruction.

TREATMENT OF COMPOUND FRACTURES OF THE LONG BONES

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WACO, TEXAS

This paper will deal with compound fractures of the femur, humerus, tibia, and fibula; their immediate treatment, including that of shock and debridement of the wound; type of immobilization; and length of treatment. Unfortunately the roentgenograms of this series were lost or ruined when I was returning from overseas.

For the past four to five years a large percentage of the long bones injuries were due to gunshot wounds and were dealt with in Army hospitals. With peace here and the relaxing of gasoline rationing the automobile is again the chief source of supply of patients. These injuries may incapacitate, even without complications, for from six to twelve months, depending on the bone involved. Even with the best of professional attention they may result in permanent disability. In civilian practice all age groups are represented.

Poor or indifferent treatment usually results in either death or permanent disability, often associated with a rather active and painful osteomyelitis.

INITIAL TREATMENT

Treatment received in the first eight to ten hours usually determines the end result. Shock should be combated with morphine and plenty of plasma and whole blood. This war has demonstrated without question that many who previously would have died of shock or infection were saved by blood and plasma. The wound should be carefully cleaned with soap, water, and saline. The ragged edges should be carefully debrided, removing all devitalized tissue, foreign material, and pieces of bone which are not attached to muscle or periosteum.

The Army would not permit compound fractures to be closed, but required that they be left wide open. This was done because these patients often were not treated within the safe period of eight to twelve hours, and also because these patients often had to be evacuated immediately and could not be closely watched. In civilian practice, I think that if a wound is treated within eight to twelve hours of injury, it may be loosely closed with interrupted sutures and carefully watched. All patients should be given tetanus and gas antitoxin and immediately started on penicillin therapy, 20,000 units each three hours, and sulfadiazine, 1 Gm. with 10 gr. of soda bicarbonate each four hours. The soda is to keep the urine alkaline and prevent kidney complications.

Immediate treatment of these fractures is as important as in acute appendicitis, ruptured peptic ulcer, or ruptured extra-uterine pregnancy. This should always be borne in mind so that the job of handling compound fractures will not be assigned to some untrained intern.

If there are complicating nerve injuries the nerve should be rejoined if it can be done without unduly prolonging the operation. If this cannot be done, tantalum sutures should be placed loosely through the nerve ends so that they may be more easily located at secondary repair.

Treatment of the individual bones will be taken up separately as each one presents a problem of its own because of location and muscle attachments.

FEMUR

The femur is the largest and longest bone of the body and bears the weight of the trunk. A comminuted or displaced fracture either simple or compound will disable a patient for from eight to twelve months even with the best of care and no complications.

After initial immediate care these patients should be put up in skeleton traction in either balanced traction using half ring Thomas splint with Pierson knee piece or an adjustable Bohler thigh splint. The Kirschner wire is preferred for skeletal traction as it makes a smaller hole than other types of wires and pins. It may be put through the condyles of the femur if the fracture is in the proximal two-thirds of the bone or in the crest of the tibia at the level of the tibial tubercle if the fracture is in the distal one-third of the bone. Some surgeons prefer to put all wires through the crest of the tibia because this can be done under a local anesthetic. Most cases of simple fractures of the femur which are comminuted or displaced should be treated as above in regard to skeletal traction.

Weight put on for traction is roughly one-seventh of the patient's body weight plus ten pounds for reduction. After reduction is secured the extra ten pounds is removed.

Skin traction is not suitable because it will not support sufficient weight and it causes skin irritation. It also cannot be used where there is extensive skin and soft tissue damage or associated burns.

These patients should be kept in skeletal traction for six to eight weeks at least and then put in a hip spica cast until sufficient callus has formed, usually another six to eight weeks, but which in severe comminu-

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tion may require several months or may end in nonunion and require graft. After the cast is removed many patients must be supported for four to six months in braces to prevent refracture. I have seen this occur in several instances.

Of course, some fractures may be in good condition and can be treated with a plate, Carrell-Girard removable pin, or some other form of internal fixation. However, the less permanent hardware left or put in potentially dirty wounds of the femur the better the end result.

TIBIA AND FIBULA

As the tibia is immediately subcutaneous there are many compound fractures of this bone. The fibula is often not injured. If there is no displacement of the tibia, only a complete cleaning with soap and water and debridement is indicated. The wound should be loosely closed and a cast applied.

If the fracture is displaced and oblique or unstable, this is a good place to use a Carrell-Girard removable screw. The advantage of this pin is that at the first sign of infection it may be unscrewed and removed, thus removing all foreign material from the wound and bone. The handle of the screw protrudes from the skin and may be included in the plaster. No anesthetic or hospitalization is required for the removal of these pins.

If a removable pin is not used, a plate or regular bone screws may be employed in these oblique or unstable fractures. Internal fixation is not used on the fibula, which is reduced as well as possible and the reduced tibia depended on for splinting.

After internal fixation is applied, a thigh length cast with 10 to 15 degrees flexion of knee and ankle at 90 to 95 degrees is put on. The thigh length cast is worn for at least two months and longer if x-ray studies show insufficient callus. Removable screws should be removed in four to six weeks. After the thigh length cast is removed, a knee length one should be applied for six to eight weeks with a walking caliper. If sufficient callus is present, weight bearing may be permitted with a knee length drop foot caliper, using cane or crutches for added support. The total period of disability is usually estimated to last five to six months.

HUMERUS

There are several methods of handling fractures of the humerus depending on amount of soft tissue damage. They are (1) hanging cast, (2) shoulder spica, and (3) skeletal traction. Each will be considered separately.

1. Fractures having a minimum of soft tissue damage may be treated with a hanging cast provided the patient can sleep in a semi-reclining or even full sitting position so that he does not rest the elbow on anything and displace the fracture. This is also very satisfactory in all cases of simple humeral fractures involving proximal two-thirds of the bone. In the Southwestern Pacific Area medical officers were not permitted to transport patients for long distances with hanging casts because most patients were transported reclining. However, this method may be used very satisfactorily in civilian practice. Using this method motion of the shoulder may be started earlier and there is less prolonged disability of the shoulder motion. I adopted hanging casts with some misgivings because they violated the basic principle of immobilizing a fracture by including the joint above and below the break, but I have been pleased and I know that the patients have because they do not have to wear a heavy shoulder cast.

2. In those fractures with extensive soft tissue damage requiring frequent attention, the best method is unilateral or bilateral shoulder spica with a window cut in the cast over the wound. The wound should be dressed or disturbed as infrequently as possible. The pain from extensive soft tissue damage in itself will often prevent use of a hanging cast because of pain from motion. If there is comminution or overlapping, extension may be secured by incorporation of a Hoke traction apparatus in the spica with a Kirschner wire through the olecranon attached. Any degree of extension may be applied by this method.

3. Some badly comminuted cases may be treated by skeletal traction through the olecranon using a Balkan frame on the bed and balanced traction. The disadvantage of this method is that the patient is confined to the bed.

OPEN REDUCTION WITH GRAFTING

Some cases of open reduction develop nonunion and require bone grafts. The distal half of the humerus and tibia are common sites of nonunion. The best type of graft is a combination onlay and inlay graft. Details of graft will not be discussed in this paper.

EXTERNAL SKELETAL TRACTION

External skeletal traction on the order of the Stader or Roger Anderson splints was not looked upon with favor by the Surgeon General and was, therefore, used only occasionally by the Army Medical Corps. It certainly should not be used routinely in compound fractures, but it is of definite

value in certain types of cases. An example is that of a young officer who had a compounded femur and extensive gluteal and rectal wounds with fecal incontinence. It was impossible to put him in fixed traction because of the soft tissue wounds, so external skeletal traction was used with excellent results. I have not used it in burn cases with complicating fractures but I am sure it would be of value.

However, for results in routine use, I should like to refer to the article in *Annals of Surgery*, December, 1944, by Irwin E. Siris, M. D., on 80 cases taken from the Surgical Service of Bellevue Hospital, New York. Siris reported there was discharge from pin sites in 46 per cent; osteomyelitis of the pin sites with persistence of discharge long after the fracture had united in 22.5 per cent; and death in 10 per cent. He believed that too much emphasis has been laid on early ambulation and joint motion. It should be pointed out again that there is still no quick and magic method that will make fractures heal quickly.

SUMMARY

It has been pointed out that compound fractures of the femur, humerus, and tibia are disabling fractures which require careful cleaning and debridement followed by large amounts of penicillin and sulfa drugs. It is believed that fractures of the femur are best treated by preliminary skeletal traction with later use of hip spicas or some type of ambulatory brace. The tibia may be treated by removable pins or plates or bone screws, depending on the type of fracture, and then immobilized in thigh length plaster. The humerus may be treated with hanging casts, shoulder spicas, or skeletal traction. External skeletal traction should be reserved for special cases and should not be used routinely.

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Professional Building.

Tuberculosis is the most virulent scourge in Greece today with malaria a runner-up. Entire villages in which every citizen seemed to be suffering from tuberculosis were seen. Although there is less starvation, disease is widespread because many persons are still crowded together in dugouts, basements, and lean-tos. Through joint efforts of the government and relief associations, vitamin foods are being served daily to thousands of child war victims.—John Dula, Senior Child Welfare Specialist of the UNRRA. J. A. M. A., Jan. 12, 1946.

THE USE OF THROMBOPLASTIN FIXATION IN SKIN GRAFTING AND WOUND HEALING

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SAN MARCOS, TEXAS

Thromboplastin fixation is, as the name implies, a fixing of the wound edges together, or in the case of a skin graft, the fixing of the graft to its bed by the use of thrombin and plasma under optimum conditions. It is a relatively new technique that may be employed in wounds of many types and has its greatest usefulness in the field of skin grafting. In the past the difficulty in obtaining proper pressure, together with infection, has been responsible for a large percentage of failures. Every conceivable type of material has been used in recent years in an effort to obtain the optimum pressure, but there is no practical way of actually measuring it after the pressure is applied, or determining an ideal amount. Fixation with thromboplastin has solved the problem of pressure, in addition to its other advantages.

PHYSIOLOGICAL CONSIDERATIONS

The principle of thromboplastin fixation was introduced only two years ago by Dr. M. E. Sano.[2] She was prompted to make her investigation after some unpleasant experience as an assistant at skin grafting procedures where excessive bleeding was encountered from the sutures. It occurred to her that the principles employed in growing cells in the laboratory in tissue cultures might be successful in skin grafting by providing the physiological adhesion of the graft to its bed through the use of thrombin and plasma.

Dr. Sano reviewed the two conditions so essential to growth in tissue cultures: first, a suitable surface for the cell to grow on through the use of coagulated plasma, and second, adequate nutrition through a medium made up of embryonic tissue extract and a buffer salt solution which she calls "Tyrode's solution"* and which consists of a number of inorganic salts, all of which are easily obtainable. Cell growth in tissue culture is facilitated by employing homologous plasma and tissue extract. Heparin or oxalate is added to the whole blood to prevent clotting until the three agents (plasma, tissue extract, and the solution of salts which supplies

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*Tyrode's solution consists of sodium chloride 8.0 Gm., potassium chloride 0.2 Gm., calcium chloride 0.2 Gm., magnesium chloride 0.1 Gm., sodium acid phosphate 0.05 Gm., sodium bicarbonate 1.0 Gm., glucose 1.0 Gm., with distilled water added to make 1,000 cc. filtered through Berkefeld filter "W."

the calcium that has been previously removed) are allowed contact at the time of planting the culture. At this instant the fibrin is precipitated and a delicate clot is formed to which the tiny fragment of tissue clings and begins its rapid cell growth.

These principles were first employed by Dr. Sano with experimental grafts on 12 rats with gratifying results and have led to extensive use of the method.

LABORATORY TECHNIQUE

The project described in this paper is based on her original technique, with slight modifications. With the excellent coöperation of the laboratory, I have evolved a standard procedure which is now employed. I am in agreement with Sano[2] and Sheehan[3] that in any actual clinical case it is more practical to use the patient's own plasma and cell extract than a stock preparation, and I also believe that this affords a better chance for success. In my cases, I have employed autogenous plasma and autogenous cell extract on every case. The latter is really a suspension of white blood cells and with Tyrode's solution it is added to the plasma; all the agents necessary to create a firm adhesive clot are present. I have made a slight change in Sano and Sheehan's technique by using oxalate instead of heparin, since oxalate works quite as well, is less expensive, is easily obtained, and makes possible autoclaving the anticoagulant in a test tube before use.

TECHNIQUE OF PREPARATION OF THROMBOPLASTIN FIXATIVE

Approximately 10 cc. of blood is withdrawn using aseptic technique and are placed in a sterilized tube containing .5 cc. of 0.9 per cent oxalate solution. The tube previously has been sterilized in the autoclave with the oxalate inside the tube and corked (Wassermann tube, 11 by 120 mm.). The cork is replaced and the blood is immediately agitated for mixing by simple inversion of the tube several times. The test tube is then placed in a centrifuge, using careful counterbalancing. It is then spun in the centrifuge at 2,000 r. p. m. for twenty minutes. Following this the plasma is withdrawn (by the use of a previously sterilized hemoglobinometer pipet which has been attached by a rubber tube to a 10 cc. syringe) and placed into another sterile test tube and corked. In a third test tube, which has been previously sterilized and which contains a few previously sterilized glass beads, 5 cc. of Tyrode's solution is placed. Then the creamy layer of white cells is scooped out aseptically using a sterile platinum loop (the loop, at its tip, has been bent to right angles with the long axis of the holder). Several dippings are necessary to accomplish the removal of the layer of white cells (one must avoid reaching too deeply so as not to agitate the tube at this time). Thus a minimum of red cells is transferred with the white cells into the Tyrode's solution. Both tubes are corked and taken to the operating room for the use of the operator. It must be pointed out that the use of the oxalate in place of previous methods simplifies and cheapens the procedure and in no way, in my opinion, is inferior to the other methods. There is sufficient calcium and other ionic salts to neutralize the anticoagulant effect of the oxalate and provide a sufficiency of calcium ion so that the normal clotting mechanism may proceed.

SURGICAL TECHNIQUE

The technique of the surgical procedure is a little different from that in the usual skin graft. To begin with, in the cutting of the graft, allowance is made for the different method of application. It has long been the practice to suture a graft in its bed under tension, and in order to do this an exact pattern of the defect to be covered was taken and the graft was cut to fit. Since the graft always shrank 20 to 30 per cent, it would necessarily be under tension, and heretofore, it was felt that was desirable and physiological. However, with the new method, the graft is made 20 per cent larger than the pattern since it is to be fitted into place without the previously mentioned tension, and this must be kept in mind.

By arrangement with the laboratory, the two solutions just described are brought to the operating room during the procedure at about the time the graft has been taken and is to be placed in its new bed. The solutions are transferred into two sterile medicine glasses from the test tubes after the latter have been flamed. They are then placed on the instrument table as part of the regular sterile equipment used in the operation. Using a light camel's hair brush, the area that is to be grafted is painted with the plasma, and the cell extract is applied to the raw surface of the graft.[1] Even though the graft is cut 20 per cent larger than the defect it shrinks considerably and must be stretched into place. At first this shrinkage prompted me to break the rules slightly and put in two or more retention sutures at one end of the graft and stretch the skin from this point to the other parts of the graft. However, it was soon found that proper stretching and pressure can be well accomplished by the use of, first, a hand roller,

and then added pressure by the use of the palm of the hand, placed against the graft for a period of two to three minutes. When the hand is removed, the graft is firmly adhered to its bed and one does not have to be too careful in handling this region after this stage of the operation. What happens is that the prothrombin in the cell extract when in contact with its plasma is converted into thrombin, and the thrombin acting upon the fibrinogen in the plasma converts it into fibrin. A fibrin matrix is thus formed which seals the graft to its bed.[2, 3] Sheehan stated that fibrinogen alone will form the required matrix that will seal the graft to its bed. He made the further observation: "the plasma alone will not promote that rapid restoration of the graft that is such a distinguishing factor in this method. The contribution of a fibrin matrix to the cultivation of living cells, which has always been recognized, is accelerated by the contact with the cell extract. This has often been demonstrated and shows the possession by the leukocytes of a function not hitherto ascribed to them and for which further research doubtless will account."[3] This marked acceleration of the entire cycle through which the graft must pass in obtaining life is the greatest contribution of this method and my observations on this phase of the subject were the principal reason for publishing this paper.

Either a very light bandage or no dressing is satisfactory. I was at first reluctant to leave off the dressing because of habit and fear, but for the past twelve months I have applied one piece of 4 by 4 inch dressing which was scarcely in contact with the graft at all, its only purpose being to protect the graft from the bed linens. These light dressings can easily be lifted for inspection of the graft.

It is well known that a skin graft goes through a very definite cycle in the process of gaining life in its new environment. At first, it is a definite white, then it assumes a mottled purplish color which becomes completely purple and deeply cyanotic. The purple later becomes mottled with slightly lighter tones, which progress until the skin becomes pink throughout. In the past, the full purple color was usually obtained on the fourth postoperative day. On the seventh and eighth days, one could note the mottled lighter tones making their appearances, with the diffuse pink coloration not becoming present until about the fifteenth day. The color changes, with their ease of observation, have proved to be one of the most interesting features of the new method and permit a very early and accurate evaluation at all times of the graft as to its viability.* In using the thromboplastin fixation the graft is a full purple at the end of forty-eight hours and one can see purplish spots in four to six hours after its application, which indicates that, though the blood is not high in oxygen, it is already penetrating the graft. From the second until the seventh day the purple becomes progressively mottled with lighter tones, and by the seventh day, it is diffusely pink. My observation clearly demonstrated that the grafts in which the thromboplastin fixation was used accomplished the first forty-eight hours of ordinary wound healing at the time of the operation. This forty-eight hour period is the first stage of the wound healing and virtually prevents the graft from having to go through that initial period of poor circulation following the operation, during which an appreciable number of grafts are lost from ischemia when the thromboplastin technique is not used.

SUMMARY OF CASES

In my series of cases, I have employed this procedure in 61 patients since May, 1944. Of these 61 cases, 33 were on granulating surfaces of one type or another and were on newly created wounds usually following the excision of a disabling cicatrix adjacent to a joint. Prior to using this method I had performed 17 skin grafts during the previous 23 months. Of this group, 5 were on newly formed wounds from the excision of cicatrices and 18 were on granulating wounds. The new wounds showed approximately 85 per cent viable skin graft and the granulating wounds showed approximately 50 per cent. A rather close observation of my cases prior to the advent of this new method was made because I was dissatisfied with the results, particularly on granulating surfaces. Since the employment of thromboplastin fixation technique beginning fifteen months ago, each graft has been studied carefully after two-week intervals following the operation to determine the surface area that has taken. In the following discussion the "take" is expressed in percentage. Of the 28 cicatrices that have been excised and grafts applied, which have been in the axilla, the anticubital fossa, the popliteal fossa about the heel, and around the other major joints, there was a 100 per cent take of the graft in every instance. Of the 32 grafts placed on granulating surfaces, the percentage of viable grafts has been 75, which seemed quite satisfactory

*AUTHOR'S NOTE.—A large series of Kodachrome films are available to any surgeon wishing to see demonstrations of the more rapid attainment of blood supply by the grafts in which thromboplastin technique was employed. The films are an integral part of this work, but it was impractical to reproduce them in this publication.

because ordinarily takes are not nearly so high on a granulating recipient wound.

OTHER USES OF THROMBOPLASTIN FIXATION

It is not entirely new to reparative surgery that plasma can be used to advantage in the exterior treatment of wounds. The fact that plasma infusions add to the supply of fibrinogen and therefore of fibrin at the area of healing long ago suggested that it may promote healing if locally applied. There are reports of its use in sealing wounds of liver tissue in which suturing would lead only to further bleeding, and there are also reports of its employment in wounds of the spleen. Laceration of the face are the most suitable lesions for the employment of this method. Until the present time I have employed this technique in this type of lesion only 5 times, 3 wounds of the lip, 1 of the neck, and 1 of the cheek. In these cases, both plasma and cell extract were applied to the raw surface of each wound edge, and the edges were then carefully approximated with the fingers and held for two to three minutes. Unless there has been a substantial loss of tissue they will be adequately sealed. I have been gratified with the results in each instance. One case was a narrow avulsed pedicle of the face and it is felt that this technique was responsible for the survival of the skin flap, by virtue of the fact that both ischemia and foreign body reaction were eliminated by not using sutures.

CONCLUSIONS

In my work for the past fifteen months with this method, I have come to feel that there are some definite advantages and uses for thromboplastin fixation. In the first place it has the greatest number of takes and the highest percentage of living area in the individual graft.[1] It affords the optimum pressure of the graft against its bed and this pressure has not been attained by a mechanical bandage but by a physiological condition.[2] In addition, and of most importance, it affords a better and quicker nutrition to the graft itself by creating those conditions that Dr. Sano described as satisfactory in the test tube and the laboratory in tissue culture growth. In the second place a large bandage is eliminated. It requires much work and considerable time and skill in application, and even then bandages frequently loosen and slip. A third advantage is that no sutures are necessary. Frequently they will leave unsightly scars even when removed early, and they may also be the source of infection or additional bleeding. This is of particular value about the face. A fourth advantage is that the graft may be observed from day to day or from hour to hour if desired, which is of interest and of value in following the viability of the graft. Fifth, it is of distinct advantage in the operating room itself because it is a much quicker method. With the use of suture, plastic surgeons frequently require some two or more hours to apply a large free graft. Their meticulous technique and the use of an infinite number of interrupted or continuous sutures is very time consuming. The use of thromboplastin fixation eliminates these time consuming procedures. I feel that this simple combination of plasma and cell extract when properly used adds greatly to the armamentarium of the surgeon in this field of work.

SUMMARY

1. A relatively new method of skin graft fixation is described which employs plasma on the surface of the graft and white cells on the recipient area.

2. In the preparation of the material oxalate has been substituted for heparin since the former works quite as well, is less expensive, is easily obtained, and makes possible autoclaving the anticoagulant in a test tube before use.

3. The physiological considerations, opertive technique, and advantages of the method are described.

4. A series of skin graft cases using the method are reported with 100 per cent "take" in 28 cases of aseptic scar excision followed with skin grafting and 75 per cent "take" in 33 cases of grafts applied to granulating surfaces.

5. The method may also be used in fresh lacerations, especially of the face, to produce an immediate physiological healing by primary intention.

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SLEEPING PILL POISONING

Benzedrine, a drug used in the treatment of certain depressive conditions such as that produced by alcoholism, has been newly applied in the treatment of sleeping pill poisoning and proved to be highly successful, according to two doctors writing in the June 22 issue of *The Journal of the American Medical Association.*

The doctors—A. W. Freireich and J. W. Landsberg of Hempstead, N. Y.—treated 14 patients with poisoning from sleeping pills by giving them injections of benzedrine into the veins. Thirteen patients recovered completely except for a slight headache. The one patient who died had not received, in the authors' estimation, a sufficient quantity of the drug because it was not available.

OUTLOOK FOR INFANTS RECEIVING ANTI-Rh AGGLUTININS FROM ISOIMMUNIZATION OF MOTHERS

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The increased knowledge of hemolytic disease of the newborn (erythroblastosis fetalis) has provided the lay press with a fertile field for the implantation of this knowledge to the public. As a consequence more and more women are requesting that the Rh factor for themselves and their husbands be determined. Unfortunately today when that factor has been found to be Rh-negative in the female and Rh-positive in the male, those women fear multiple pregnancies and occasionally the first pregnancy. That this future might not be as dismal as previously thought is now beginning to appear. The data suggesting a brighter future in multiple pregnancies of the Rh-negative woman will be presented in this article.

It is known at the present time that there is a discrepancy between the incidence of marriages of Rh-negative women and Rh-positive men and frequency of hemolytic anemia of the newborn in pregnancies resulting from these marriages. Thirteen per cent of all matings involve an Rh-negative mother and Rh-positive father; but hemolytic anemia of the newborn (erythroblastosis fetalis) occurs only in 0.2 to 0.5 per cent of deliveries. The consideration of some of the variable factors in the pathogenesis of this disease helps to explain this variation.

1. The individual Rh factor may vary in its antigenic power. The Rh antigen as a rule is a weak antigen as compared to the agglutinogens A and B in man. This is reflected in the fact that usually several pregnancies are necessary to build up sufficient antibodies or rapid production of antibodies.

2. The ability of different persons to produce antibodies is known to vary considerably. This variation apparently is more marked in the production of antibodies for the Rh antigen.

3. The amount of Rh antigen that may enter the maternal circulation and amount of anti-Rh agglutinins that pass back to the fetus apparently varies a great deal in different mothers.

4. The amount of anti-Rh reaction factor that is found chiefly in Rh-negative blood serum may vary in different individuals and in different pregnancies. In a previous article[2] the difference in Rh-negative blood serum and Rh-positive blood serum in preventing Rh agglutination in vitro was demonstrated.

The values of several sera from Rh-negative donors' blood in preventing agglutination of Rh-positive cells with anti-Rh agglutinins are shown in table 1. For controls the sera of several Rh-positive donors were used.

TABLE 1.—*Effect of Incubation of Various Rh-Negative and Rh-Positive Blood Sera Upon Rh-Positive Cells Tested with Commercial Rh Testing Serum.*

Type of Test	Dilutions of Anti-Rh Testing Serum 1:5	1:10	1:15	1:20	1:30	1:40	1:60
Rh-Pos. (A) Red Blood Cells using Serum of Rh-Neg. (A) donors							
Mrs. P.	+	+−	+−	−	−	−	−
Mrs. C.	+−	+−	−	−	−	−	−
Mrs. B.	−	−	−	−	−	−	−
Rh-Pos. (O) Red Blood Cells Using Serum of Rh-Neg. (O) donors							
Mrs. H.	+−	+−	+−	+−	+−	+−	−
Mrs. McD.	−	−	−	−	−	−	−
Rh-Pos. (A) Red Blood Cells Using Serum of Rh-Pos. (A) donors							
X	+−	+−	+−	+−	+−	+−	+−
Y	+	+	+	+	+	+	+−
Z	+	+	+	+	+	+	+−
Rh-Pos. (O) Red Blood Cells Using Serum of Rh-Pos. (O) donors							
A	+−	+−	+−	+−	−	−	−
B	+−	+−	+−	+−	+−	+−	+−

All dilutions were made with sera of Rh-negative and Rh-positive donors.

Data on the further observation of this protective factor and its variation is presented in table 2.

All mothers studied and reported in table 2 were Rh-negative, the infants Rh-positive, and the fathers Rh-positive. Infant A was the result of a first pregnancy and showed no anti-Rh agglutinins and only a small amount of anti-Rh reaction factor in his blood. His mother showed no anti-Rh agglutinins and a high amount of anti-Rh reaction factor.

The mother of infant B has two children living and well with a third infant dead of erythroblastosis fetalis eighteen months before delivery of infant B. Seven days before delivery this mother's blood showed anti-Rh agglutinins and twelve hours after delivery there were no demonstrable anti-Rh agglutinins present in her blood. Infant B showed weak anti-Rh agglutinins in his cord blood on delivery. The mother of infant B showed a titer of 1:32 of the anti-Rh reaction factor in her blood seven days before delivery and this increased fourfold on delivery. Infant B showed the same titer of anti-Rh reaction factor as his mother.

The mother of infant C has two children living and well. The third was delivered dead of erythroblastosis fetalis. This mother had an extremely high titer of anti-Rh agglutinins in her blood and no anti-Rh re-

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action factor. It was unfortunate that the blood of the infant delivered dead was not obtained for study.

The mother of infant D has three children living and well. In addition she has one child living who is a spastic and three infants dead, presumably of erythroblastosis fetalis. Her last infant, infant D, had erythroblastosis fetalis, associated with congenital bands obstructing the stomach and large intestine. Death occurred on the sixth day after delivery. The blood of the mother of infant D showed a weak titer of 1:12 of anti-Rh agglutinins and a very weak titer of 1:64 of the anti-Rh reaction factor. The infant showed a titer of 1:128 of anti-Rh agglutinins and a weak titer of 1:64 of the anti-Rh reaction factor. This infant died of intestinal obstruction associated with erythroblastosis fetalis on the sixth day of life.

TABLE 2.—*Titers of Agglutination of Anti-Rh Agglutinins and Anti-Rh Reaction Factors on Rh-Negative Mothers and Rh-Positive Infants.*

Dilutions	1:1	1:2	1:2	1:4	1:6	1:8	1:12	1:16	1:22	1:22	1:28	1:64	1:128	1:256
Anti-Rh agglut.														
A. Gravida 1	−	−	−	−	−	−	−	−	−	−	−			
Infant (Normal)	−	−	−	−	−	−	−	−	−	−	−			
B. Gravida 4	+		+	+−	−	−	−	−	−	−	−	(7 days before del.)		
(One infant dead, erythroblastosis).	−		−	−	−	−	−	−	−	−	−	(12 hr. after del.)		
Infant (Normal)	+−		+−	+−	+−	+−	+−	+−	+−	+−	−	−	−	
C. Gravida 3	+	+	+	+	+	+	+	+	+	+	−	−	−	
(Infant del. dead, erythroblastosis).														
D. Gravida 8	+−	+−	+−	+−	+−	+−	+−	−	−	−	−	−	−	−
(3 infants died, erythroblastosis. Last infant lived 4 days.)														
Infant 8	+	+	+	+−	+−	+−	+−	+−	+−	+−	+−	+−	+−	−
E. Gravida 6	+	+	+	+	+	+	+	+	+	+	+			
(3 infants died erythroblastosis. Last infant undel.)														
Anti-Rh Reaction Factor.														
A. Gravida 1	−	−	−	−	−	−	−	−	−	−	−	−	−	
Infant	+	+	+	+	+	+	+	+	+	+	+−	+−	−	
B. Gravida 4	+	+	+	+	+	+	+	+	+	+−	−	−	−	
(7 days before del.)														
Gravida 4	+	+	+	+	+	+	+−	+−	+−	+−	−	−	−	
(12 hrs. after del.)														
Infant Nor.	+	+	+	+	+	+	+−	+−	+−	+−	+−	+−	−	
C. Gravida 3	+	+	+	+	+	+	+	+	+	+	+−	+−	−	
D. Gravida 8	+	+	+	+	+	+	+	+	+	+	+−	+−	−	
Infant died fourth day	+	+	+	+	+	+	+	+	+	+	+	+	−	
E. Gravida 6	+	+	+	+	+	+	+	+	+	+	+	+	−	
Infant undel.														

All dilutions were made with serum of mothers or infants.

In a previous report on the studies of the anti-Rh reaction factor, data were presented to show that the anti-Rh reaction factor in the serum of blood of an Rh-negative donor who was tested was effective in vitro in preventing agglutination by the anti-Rh agglutinins present in the blood of the mother giving birth to an erythroblastotic infant. The suggestion was made that regular infusions of such a serum to a mother during gestation of a possible erythroblastotic infant might be of value in salvaging her infant.

The question arises at this point as to whether or not the prevention of agglutination of Rh-positive cells in the presence of a potent anti-Rh agglutinin serum is the result of "blocking antibodies" in the serum of the Rh-negative donors tested. These "blocking antibodies" combine with their antigen but the reaction stops at this point in vitro and no agglutination or hemolysis occurs. The combination of these "blocking antibodies" with their antigen effectively prevents agglutination when potent anti-Rh agglutinins are added in vitro. Wiener[7] stated that on account of these "blocking antibodies" consisting of smaller molecules than agglutinins and therefore being able to traverse the placental barrier more readily into the fetal blood stream, the "blocking antibodies" are more important clinically than the agglutinins. The anti-Rh antigen-antibody reaction factor is different from the "blocking antibodies" because it occurs in serum of Rh-negative male donors who have received no blood transfusions and obviously could not be immunized by pregnancy. Second, "blocking antibodies" apparently have a priority to combine with their antigen over the anti-Rh agglutinin, whereas the anti-Rh antibody-antigen reaction factor is effective when its concentration is sufficient to protect the Rh antigen from combining with the anti-Rh agglutinin in vitro. Whether or not the anti-Rh antibody-antigen reaction factor is effective in preventing "blocking antibodies" from combining in vitro with their antigen I am not at this time prepared to state. Third, the "blocking antibody" once it combines with its antigen removes that antigen from the possibility of reacting with

potent anti-Rh agglutinins so that those Rh-positive red blood cells act like Rh-negative red blood cells. The anti-Rh reaction factor may be removed from the Rh antigen so that that antigen will then react with the anti-Rh agglutinin.

Recent reports, in addition to the infant B reported in this study, have accumulated in the literature of newborn infants without symptoms of hemolytic anemia of the newborn being delivered of mothers with anti-Rh agglutinins in the maternal blood[4]. The role of the anti-Rh reaction factor has been suggested in one of the infants studied and it may have been the essential protective factor in others.

Mayes[6] has recently reported on the cord transfusions of infants born of Rh-negative mothers when those mothers have had a previous pregnancy. He stated that the use of the mother's blood rather than a donor's is contrary to the general rule, but so far in the main the mother's blood seems to agree with the babies. In view of the fact that those mothers may have a high degree of anti-Rh reaction factor in their blood, if their infant is undamaged by anti-Rh agglutinins or "blocking antibodies" up to the time of delivery, then such a procedure would not be contraindicated. An occasional mother, however, may have a small titer of the anti-Rh reaction factor and the use of her blood would not be indicated. However, the chances are that if she had such a weak titer of anti-Rh reaction factor, her infant would be born seriously damaged or dead.

The value of a single large transfusion in 1 case of erythroblastosis fetalis has been shown.[8] Bivings[1] also recently reported an infant with erythroblastosis fetalis given a single large transfusion of Rh-negative blood with complete recovery.

The routine determination of the Rh factor on all mothers before or at the beginning of pregnancy, the possible and hoped for protection with infusion during gestation of Rh-negative blood sera in Rh-negative mothers expecting Rh-positive infants, and the adequate cord transfusions of those infants at delivery may well change the outlook of hemolytic disease of the newborn.

For convenience and ease of treatment banks of Rh-negative blood and blood serum will be necessary. It may well be that commercial dried Rh-negative blood plasma in adequate future determined amounts will be available to the obstetrician together with adequately trained laboratory technicians to make determinations of titers of Rh agglutinins, Rh "blocking antibodies," and the anti-Rh reaction factor to guide the obstetrician in his treatment of Rh-negative mothers.

SUMMARY

1. A case study of an infant showing anti-Rh agglutinins in his blood as well as in his mother's blood and apparently protected by the anti-Rh reaction factor present in equal concentrations in his and his mother's blood is reported.

2. A brief review of some of the various factors operating in hemolytic disease of the newborn is presented. Evidence is reported which at the present time makes the outlook in hemolytic disease of the newborn not as dark as once believed.

3. The necessary therapeutic steps and means of taking those steps in hemolytic disease of the newborn are outlined.

4. Attention is called again to the fact that treatment of hemolytic disease of the newborn (erythroblastosis fetalis) is an obstetrical problem. It is hoped that the use of suitable Rh-negative blood and blood serum at regular intervals before delivery may result in the salvage of a large number of those infants.*

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ABSTRACT OF DISCUSSION

Dr. J. A. Nunn, San Antonio: I have enjoyed the splendid paper read by Dr. Bloxsom and am glad to hear about the anti-Rh reaction factor which is something new to me. I have not heard of it before nor have I seen anything about it in the voluminous literature on the Rh factors. The doctor has presented something new in the management of hemolytic disease of the newborn. Any method of treatment which promises a brighter future to the fetus or newborn who is exposed to the action of the anti-Rh agglutinins sounds encouraging to me. Heretofore efforts have been made to desensitize, with injections of packed Rh-positive red cells, the Rh-negative woman who has been sensitized by her Rh-positive fetus, but this treatment only further sensitizes the woman and makes bad matters worse for the fetus.

*AUTHOR'S NOTE.—A final observation on infant E delivered to gravida 6 (see table 2) can be made at this time. The obstetrician was advised that since gravida 6 had very little anti-Rh reaction factor in her serum he should suggest that she be given an infusion of serum from an Rh-negative donor with a high titer of the anti-Rh reaction factor. This was done and gravida 6 refused. The infant at delivery seemed normal, and the obstetrician at my suggestion at once called the pediatrician who had taken care of the other children of this mother and informed him that the infant should receive some Rh-negative blood serum as its mother had very little protective factor in her blood. The pediatrician disagreed. Two days later this infant was dead of erythroblastosis fetalis. This infant had two opportunities for a possible survival. It was granted neither.

This naturally present anti-Rh reaction factor in the blood of Rh-negative persons evidently inhibits the Rh antigen-antibody reaction in Rh-negative mothers, who have been exposed to Rh-positive blood and thus prevents hemolytic disease in at least some of their fetuses. This probably explains the case, reported by Goldbloom and Lubinski, in which the mother had a high titer of anti-Rh agglutinins in her blood serum but her baby was not affected. I have read reports of a few infants with hemolytic disease who were given transfusions of their mother's blood instead of donors with apparent benefit and no reaction. The mothers of these infants must have had an abundance of the anti-Rh antigen-antibody reaction factor in their blood sera or these babies would have been made worse.

The infusion of sera from Rh negative males who have not been sensitized by transfusions to pregnant Rh-negative women who are expected to have erythroblastotic infants, especially if the titer of anti-Rh agglutinins rises, will probably prevent many neonatal deaths from hemolytic disease and greatly diminish the incidence of kernicterus in those who survive the acute disease.

THE USE OF FINE COTTON SUTURES IN EPISIOTOMY REPAIRS

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Occasionally, no matter how meticulous one is, he has difficulty with episiotomy repair. With the revival of early rising of the parturient woman,[1, 5] additional episiotomy complications have been encountered. I have therefore been alert to methods by which episiotomy repair technic could be improved. Many of the errors in technic and resultant faulty healing can be attributed to the type of suture material used, and this is particularly true of absorbable sutures.

When chromic catgut is used, there is a tendency to apply considerable force in approximating perineal muscle and fascia. This often produces a strangulation of tissue, followed by necrosis[3] with the establishment of an area of lowered tissue resistance. Furthermore, the tensile strength of catgut is not constant. The tensile strength of chromic catgut decreases rapidly in tissues.[2]

During the past few years there has been a trend toward the use of nonabsorbable suture materials. Recently, spool cotton has acquired prominence in surgical practice.[4] The advantages of cotton sutures rest largely upon the fact that the material maintains satisfactory tensile strength in tissues; excites very little, if any, fibroblastic proliferation; and the fact that the healing process is "dry" rather than moist as it often is in the case of chromic catgut sutures.

Paradoxically, the disadvantages of cotton sutures are predominantly advantages. Fine, interrupted cotton sutures must be used; consequently, the sutures break easily, thus influencing the operator to handle tissues more carefully. In changing from catgut to cotton sutures, the episiotomy repair technic is altered considerably, that is, considerably improved. Cotton, like all nonabsorbable sutures, requires exactness of technic with small bites of tissue included in each suture. Furthermore, another advantage is that spool cotton is easily sterilized without reduction in its tensile strength.

Preparation of the suture material is as follows: No. 80 white spool cotton is cut into approximately 9 inch lengths coiled, and placed in a 10 cc. test tube. Enough suture material is prepared for one episiotomy repair. The mouth of the tube is closed with a cotton ball, and the tube and its contents are sterilized in a steam-pressure autoclave for twenty minutes.

In this report the episiotomy repair technic is briefly as follows: The vaginal mucosa to the hymeneal ring is approximated with interrupted, absorbable, triple O chromic catgut sutures. This usually requires four or five sutures placed about 1.5 cm. apart. One or two interrupted sutures are placed distal to the hymeneal ring. Then the severed muscles and fascia are brought together from within outward by two or three rows (depending upon the depth of the incision) of interrupted No. 80 cotton sutures. The surgical knots must be tied accurately—preferably with three knots. The suture is cut on the third knot, thus leaving no free ends in the approximated tissues. The perineal body is built up in anatomic layers under the vaginal mucosa outward to the perineal skin. Skin closure may be either by interrupted triple O chromic catgut sutures, or by the subcuticular stitch method.

In 82 episiotomy repairs by this technic, the results were gratifying. There were no wound complications in any of the repairs. There was noticeable absence of incisional discomfort in all cases, in spite of the practice of early ambulation. At the sixth week postpartum examination, induration and the thickness of the scar were minimal. In fact, it was difficult to visualize or palpate the repair area.

Changing to fine cotton sutures was, at first, difficult. The fine, very flexible material seemed almost impossible to use. However, with increased use it was found easier to handle small bites of tissue. Rapid manipulation of the suture is enhanced by cutting the material into appropriate lengths prior to its use. The actual time consumed in this type of repair is increased from two to five minutes over the absorbable suture method.

Read before the Section on Obstetrics and Gynecology, State Medical Association of Texas Annual Session, Galveston, May 8, 1946.

It is felt that the additional time consumed is more than repaid for by the absence of wound complications, the marked decrease in immediate and remote perineal discomfort, the reduction in size and increased pliability of the healed episiotomy incision, and the cosmetic results.

CONCLUSIONS

1. The advantages of fine cotton over absorbable materials have been discussed.

2. The method of episiotomy repair used in 82 cases has been briefly presented.

3. Immediate and remote results obtained justify the use of fine spool cotton sutures, as evidenced by a reduction in postpartum perineal discomfort and absence of wound complications and wound infection.

4. The gratifying results in this method of repair may be attributed largely to the lack of tissue reaction produced by fine cotton.

5. The technical difficulties encountered in the cotton suture method tend to improve the repair technic.

6. The suture material will withstand the stress and strain of early ambulation with less discomfort and fewer complications than will absorbable sutures.

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1402 Medical Arts Bldg.

ABSTRACT OF DISCUSSION

Dr. Herman L. Gardner, Houston: Dr. Morse has presented what is no doubt an improvement over the old method of chrome sutures. It is admitted that chrome is very painful to most patients, sometimes even to the extent of patients dreading having another baby. Using a subcuticular instead of an interrupted stitch in the skin relieves the pain somewhat but is not the answer. There is always some amount of pain. I have never seen cotton used in the perineum. I would like to ask Dr. Morse what happens to the pieces of cotton, especially at the time of the next episiotomy?

Dr. Nicholson J. Eastman, Baltimore: This is undoubtedly a very practical paper and I would like to congratulate the author. I have been trying one thing and another over a period of years in the technic of episiotomy. I have had no experience with cotton in the repair of the perineum as the Easterners have used it. It has been mentioned once or twice by patients with episiotomy that they have a good deal of pain—this pain can be minimized by the type of suture material. My impression is that in the average obstetrician's hands, instances of discomfort, faulty healing, breakdown of the wound, and so forth depend more on the type of episiotomy than on the suture. From the viewpoint of comfort after delivery, good anatomical results, and good healing, the median episiotomy is preferable to the median-lateral. Most obstetricians are afraid of the median episiotomy because of the possibility of third degree lacerations, which they feel they overcome with a median-lateral episiotomy. I had occasion to review recently some 40 to 50 third degree lacerations that were repaired and found only one-fourth with the rectum involved. These patients did beautifully; no discomfort, no trouble with bowel movements, good sphincter control, and no fistulae. Some patients with median episiotomy never knew they had an episiotomy, which is not true of the median-lateral.

The reason for fear of the third degree laceration is probably a hangover of the days when the majority of women were delivered at home without assistance. Anesthetists were lacking and the operator was quite aware of this during his repair of third degree lacerations. It is quite understandable that his repair was faulty and led to fistulae, lack of control, and other unsatisfactory results. Lighting was bad; it was easy to miss some of the places needing repair, and difficult to do the repair. The long considered stigma of lacerations is minimized with the median episiotomy.

Dr. Robert A. Johnston, Houston: I agree with Dr. Eastman about the median episiotomy. It is much more pleasant for the patient than the median-lateral type. One thing in regard to the use of interrupted sutures: I formerly used a continuous suture which works very well, but at times the patients seemed to suffer and I was called out on occasion to give a hypodermic for relief. Interrupted sutures will allow a great deal more relief. The explanation is very apparent: swelling and edema cause pain; interrupted sutures allow the serum to escape more easily than when the suture is closed too tight as in the continuous method.

Dr. Morse, closing: I think the direction of the incision makes a great difference in healing. The nearer the incision approaches the midline, the easier and more anatomical the repair. Many of the episiotomies in this report were of the median type.

The type of suture material plays an important role in the character of the healing. The finer suture materials are preferable.

In answer to Dr. Gardner's question: I have intentionally looked for the pieces of cotton in repeat episiotomies and have found that the cotton sutures remain in the tissue very little altered with no apparent tissue reaction about them.

SCHERING AWARD FOR MEDICAL STUDENTS

The Schering Award for 1946, a $1,000 essay competition open to undergraduate medical students and designed to encourage studies in endocrinology, will be awarded for essays on "The Role of Hormones in Sterility." Three judges prominent in endocrinology will choose three essays to receive awards given by the Schering Corporation of Bloomfield, N. J. For the best thesis submitted, an award of $500 will be given; for the second and third best papers, $300 and $200, respectively.

Twenty years ago, the idea of going directly to the people and searching for tuberculosis by means of the x-ray, among large groups of apparently healthy individuals, would have sounded like trying to move the mountain to Mohammed—a supposedly impossible task. Today, we are virtually doing that very thing. Modern science and ingenuity have given us the means by which we are able to find the early case of pulmonary tuberculosis. Education of the people has made them see the wisdom of the early diagnosis.—Ann. Rept., Wisconsin Anti-TB Assn., 1944-45.

A SIMPLE TECHNIC FOR THE CLOSURE OF THE CATARACT INCISION

RAY K. DAILY, M. D., F. A. C. S.
and
LOUIS DAILY, JR., M. D.
HOUSTON, TEXAS

The progress made in cataract surgery within the last two decades has completely changed our technic and revolutionized our attitude in the management of cataract cases. For example, the factor of maturity of cataract has practically lost its significance. It is not necessary to prepare the patient for a period of blindness. In the development of the technic, akinesis, retrobulbar injection, and superior rectus suture have become standardized procedures. Now and then one still encounters in the literature a voice depreciating these procedures; we react to it with patience, but do not take it seriously. During this period the extracapsular extraction has gradually given way to the intracapsular. Most of the extracapsular extractions today happen because attempted intracapsulars fail. The analysis of a large amount of material from large clinics has definitely demonstrated that the best way to avoid postoperative iridocyclitis and glaucoma is to remove the lens in the capsule. The literature of the last decade shows a growing tendency to replace the Graefe knife with the keratome in making the corneal incision. This change may be classed with the safe-guarding procedures; a well carried out corneal section requires experience and dexterity, which means that a number of eyes are sacrificed in the process of acquiring experience. If the knife is tilted forwards the section is at least partially corneal with slow delayed healing in that part of the wound. If the knife is tilted backwards it cuts too far in the sclera with injury to the ciliary body and postoperative cyclitis. Unintentional opening of the lens capsule and the iris falling over the knife are less important complications. The keratome incision, enlarged with scissors, permits even the beginning surgeon to place the incision accurately in the limbus; there is no bevelling and the size of the incision is practically the same at the outer and at the inner edges of the wound. It promotes rapid coaptation of the wound, and produces a regular cicatrix which results in a minimum of postoperative astigmatism.

There is much in the literature of the last ten years on methods of closing the wound. The desirability of a sutured wound has been established. Those of us who operated with no sutures at all know that in a large number of cases we got good results without sutures. Without a doubt, however, suturing the wound has raised the percentage of successful extractions. The conjunctival suture advocated in the late thirties is gradually being replaced by some form of corneoscleral suture, and the literature of the last decade is full of new sutures. The reason for the number and variety of the advocated sutures is the fact that the ideal suture has not as yet been found. Conjunctival sutures which are easy to introduce, before or after the delivery of the lens, are not adequate to close the wound firmly in cases complicated by vitreous loss. Some sutures are not secure enough to produce good coaptation and rapid closure of the wound in its entire extent, and others, while effective, are so complicated and cumbersome that with them in place it requires considerable surgical experience and dexterity to complete the operation, which makes them unsuitable for the occasional operator or the young surgeon.

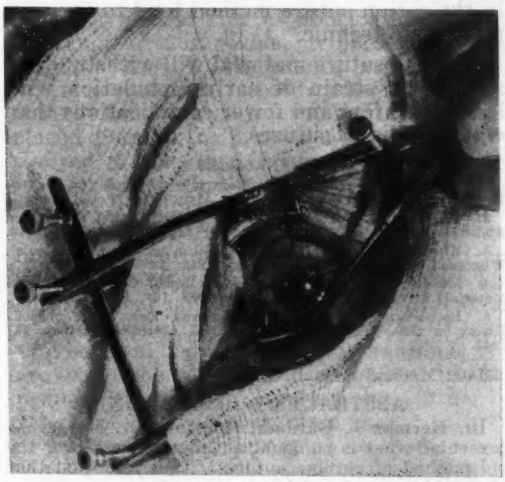

FIG. 1. Eyeball immobilized. Conjunctival flap made and reflected over the cornea. Scleroconjunctival suture introduced into the episclera just above the limbus.

In our opinion the criterion for the evaluation of any surgical procedure should be its effectiveness in the hands of the average operator. Corneal sutures are not without objection, since they open a channel for infection in a tissue of low resistance. Besides it is generally agreed that they should be introduced before the section is made; the making of a section between the loops of a suture is often a complicated and difficult

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task. Most of the corneoscleral sutures are introduced over the wound and not actually through it; such sutures tend to invert the conjunctiva and predispose to the ingrowth of epithelium into the anterior chamber. The function of a suture should be to provide firm closure of the wound even in case of vitreous loss, to prevent vitreous and iris prolapse, and to shut off the anterior chamber from the conjunctival sac. Elschnig claimed that any suture diminishes the tendency to postoperative hyphemia. If it promotes perfect wound coaptation, it should produce a minimum of postoperative astigmatism.

Having tried practically all sutures described in the literature, we have finally developed a technic which we find to fulfill

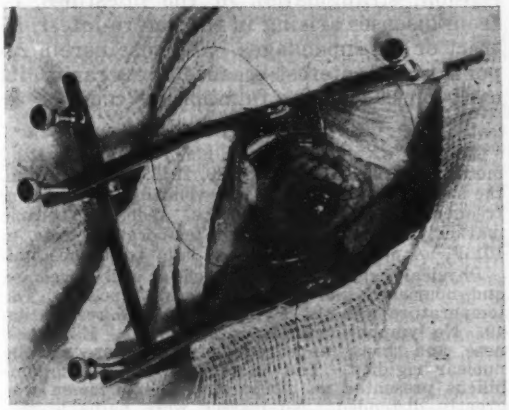

FIG. 2. Anterior chamber opened, and scleroconjunctival suture introduced through the base of the conjunctival flap.

the above mentioned requirements and which is simple enough to be successful in the hands of the young and average operator. The steps of the operation are carried out as follows: akinesis, retrobulbar injection; injection of superior rectus, and injection of conjunctiva around the limbus; superior rectus suture tied to Guist speculum, sharp right-angled hook introduced into the episclera at the limbus at the lower end of the vertical corneal meridian, providing perfect fixation of the eyeball.

With sharp-pointed scissors a conjunctival incision is made 5 mm. from the cornea around the upper third of the limbus. Below each side of the incision the conjunctiva is undermined to half of the corneal circumference; this makes the subsequent corneal incision partially subconjunctival; the conjunctival flap thus outlined is separated from the sclera and reflected over the cornea exposing the limbus. A double armed atraumatic 6-0 silk suture is now introduced into the episclera at the limbus and parallel to it, at the upper end of the vertical meridian, taking a 3 mm. bite. The two ends of the suture are laid over the region of the eyebrow and out of the way (Fig. 1).

The corneal section is now made at the limbus with a Graefe knife or keratome. If made with the knife the conjunctival flap has to be brushed back into place. If made with the keratome it is merely held up with forceps by an assistant, as in making a keratome incision for an iridectomy or iridencleisis. The keratome incision is the easier of the two. As soon as the anterior chamber is opened the hook is removed; the two ends of the suture are now passed through the base of the conjunctival flap as close to the corneal tissue as possible. The conjunctiva in this area is firmly attached and does not give or stretch, so that when the suture is tied the wound is closed firmly. Then the loops of the suture are so arranged that their lower ends may be used as a traction suture on the cornea, pulling it downward (Fig. 2).

The limbal incision is enlarged on each side with curved blunt-pointed scissors to one-half of the corneal circumference; part of the limbal incision is subconjunctival. Iridectomy, total or peripheral, or iridotomy

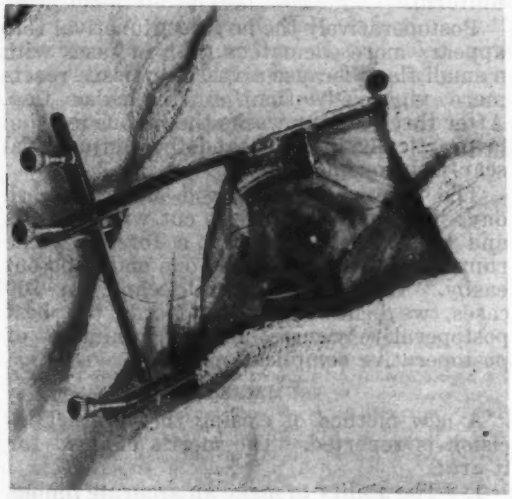

FIG. 3. Operation completed. Scleroconjunctival suture tied, and running conjunctival suture closes conjunctival incision.

is made according to the indications of each individual case, or to the surgeon's preference. The lens is extracted in the capsule or after a capsulotomy. The iris pillars are stroked into place. The suture is pulled until the wound edges are in good coaptation and tied over the conjunctiva. At this point the coaptation of the entire wound can be inspected. The conjunctival flap is smoothed

over the sclera and a running suture closes the entire conjunctival wound (Fig. 3).

This is a water-tight suture, and frequently before it is completed one can see the anterior chamber restored. If it is not restored we introduce a bubble of sterile air into the anterior chamber. At first the conjunctival flap may appear to clutter the operative field, but since it is freely movable it really interferes but little and its advantages far outweigh this objection. It should not be handled unnecessarily with fixation forceps.

The separation of the conjunctiva at the limbus is per se conducive to better coaptation of the wound edges. After the conjunctival flap is replaced the anterior chamber is completely isolated from the conjunctival sac. Epithelization of the anterior chamber, which is not a very rare and is a very grave postoperative complication, is definitely eliminated. The entire limbal incision is covered with conjunctiva. There is no deformation of the cornea, and the postoperative astigmatism is reduced to a minimum. Another advantage of a wide conjunctival flap is the rapid restoration of the vascular and nerve network at the limbus. After ten days the circulation at the limbus appears uniform.

Postoperatively the large conjunctival flap appears more edematous than in cases with a small flap, because a vascular tissue reacts more vigorously than an avascular flap. After three to four weeks the limbus incision is practically invisible and the conjunctival scar is inconspicuous.

The sutures are removed on the eighth day: The central suture is cut with scissors and then withdrawn with a forceps. The running suture grasped at one end slips out easily. Having used this technic in 100 cases, we believe that it affords the best postoperative course, and a minimum of postoperative complications.

SUMMARY

A new method of closing the cataract incision is reported. The merits claimed for it are:

1. The ability to make an accurate limbus incision.
2. Accurate coaptation of the wound.
3. Immediate postoperative isolation of the anterior chamber from the conjunctival sac.
4. Rapid restoration of the anterior chamber.
5. Firm and rapid cicatrization.
6. A minimum of postoperative astigmatism.

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ULCERATIVE COLITIS WITH PERFORATION IN A NEWBORN

REPORT OF A CASE

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BEAUMONT, TEXAS

Acute surgical emergencies in the newborn are commonly due to congenital malformations such as atresia at the anorectal junction, duodenum, and other sites of embryologic events. No child is too young to have peritonitis. It has been reported in the fetus from poisons circulating through the mother's blood in septic cases. Septic peritonitis in the newborn most commonly originates in an omphalitis; however, it may result from trauma, malformation, intussusception, strangulation of the intestines, or from diseases arising in the gastro-intestinal tract or its appendages. The case herein reported is of interest because of its rarity, its early onset, and its fulminating course.

CASE REPORT

A girl was delivered at home from a healthy mother at 3:00 a. m., March 20, 1942. At 1:00 p. m. the same day, the baby began vomiting and passing frequent bloody stools. The abdomen became markedly distended and the temperature rose to 101 F. A pediatrician sent the baby to the hospital.

Physical examination revealed a well developed and nourished girl weighing about 7 pounds. The temperature was 101 F., pulse 140, and respiration 40. No lymphatic glands were palpable. Ear, eyes, nose, and throat appeared normal. There was no nuclear rigidity. The lungs were clear. The umbilicus presented no discharge. The abdomen was greatly distended. No masses were palpable rectally. There was a hemorrhagic mucus discharge from the anus. The extremities were normal.

The clinical laboratory report was as follows: red cells 7,500,000; white cells 34,400; hemoglobin 150 per cent; polymorphonuclear leukocytes 90 per cent; large lymphocytes 5 per cent; small lymphocytes 5 per cent; coagulation time 8 minutes, 15 seconds; bleeding time 4 minutes. Three cultures were made from the mucus discharge from the rectum. The smears made from the cultures revealed growth of many gram-negative and gram-positive bacilli. Smears from the discharge from the rectum revealed few gram-negative and gram-positive bacilli. Smears from the discharge from the rectum revealed no ameba, many red blood cells and epithelial cells. Roentgen examination revealed free gas in the abdomen, indicating either a ruptured abdominal viscus or ruptured diaphragm. The latter being rare, the condition was believed to be ruptured abdominal viscus. There were no signs of obstruction.

The preoperative diagnosis was perforation of the hollow viscus and generalized peritonitis.

Preoperative care included administration of vitamin K and sodium luminal gr. 1/8. A duodenal tube was inserted and a large amount of bile colored drainage was recovered. A rectal tube was inserted and a large amount of flatus was expelled. Hartmann's solution (50 cc.) was given subcutaneously. The anesthetic used was ether—open drip.

The operation began at 12:05 a. m., March 21. A midline abdominal incision was made. The

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transverse colon was found to be adhered to the liver by thin grayish adhesions. On separating these, a thin yellow fluid exuded from the peritoneal cavity. The serosa of the exposed viscera was covered with a thin fibrinous exudate. Two ragged, necrotic grayish perforations about 1 cm. in diameter were found on the anterior surface of the transverse colon, about 6 cm. apart. The ragged edges were trimmed and perforations closed with triple O interrupted and a second row of triple O continuous sutures. One Gm. of sulfanilamide was placed about the perforation. The peritoneum was closed with continuous OO sutures, the fascia with a continuous O suture, and the skin with interrupted silkworm gut, with retention sutures. A catheter had been left in the peritoneal cavity and after closure 50 cc. of normal saline was injected through this catheter into the peritoneal cavity and the catheter removed.

Pathological Observations.—Microsection of the specimen (two pieces of tissue from the edge of the ulcer) revealed almost complete destruction of the mucosal epithelium, the mucosa being represented by an acute purulent exudate. The inflammatory change extended through the wall. There was involvement of the serosa with a purulent exudate infiltrating the pericolic fatty tissue.

The baby was placed in an incubator and a duodenal tube was inserted. Fifty cc. Hartmann's solution was given subcutaneously every four hours. The temperature rose to 101.6 F. Oxygen was given through a nasal catheter. The baby continued to have frequent bloody stools. The child voided involuntarily at 11:30 a. m. The temperature rose to 104 F. and respiration to 60. The baby was cyanotic. Coramine 2 mg. was given every three hours. The baby was crying and was very restless. Returns from the duodenal tube were dark. The abdomen was soft. Respiration became very rapid and labored. About six hours later, the abdomen became distended again. The patient became more cyanotic, the pulse imperceptible, and the baby died at 10:00 a. m. March 23, 1942.

Autospy Study (Dr. Ellen Furey, Beaumont).—"This is the body (unembalmed) of a female newborn. There is a generalized yellowish-green discoloration of the skin. There is a midline abdominal incision. The incision is pulled apart readily and it appears to be healing, a plastic exudate being present over the cut edges and no pus or pus pockets noted. However, when the peritoneum is reached a generalized peritonitis is noted. The intestinal coils, especially of the upper abdomen, are covered with fibrino-purulent exudate and about a half pint of sero-sanguinous fluid is present in the abdominal cavity.

"There are two sutured areas (sites of perforated ulcers) located in the transverse colon. These sutured areas are competent and show no leakage on pressure. The wall of the transverse colon is exceedingly inflamed and thickened. There is a patchy ulceration of the mucosa of the ascending and transverse colon, and the patches of pseudomembrane are present. In the descending colon there is evidence of inflammatory change and the mucosa is thick and injected, but no definite ulcers can be made out. The inflammatory change is seen to extend to 4 cm. from the anus. The lower rectum appears free of inflammation, only excess mucus clinging to its mucosa. The cecum and small intestines appear normal. The appendix lies free over the pelvic brim. Its serosa is injected especially at the tip but mucosa and submucosa appear uninvolved.

"The esophagus and stomach are essentially normal.

"The pancreas lies in normal position but as one approaches the head of the pancreas it is found to be closely adhered to the posterior abdominal wall against the right side of the vertebral column. The pancreatic head penetrates the duodenal wall at the site of the ampulla of Vater. Thus pancreatic tissue lies between duodenal mucosa and the two outer coats of the duodenum. Apparently there is no obstruction to the ampulla. This pancreatic mass measures 2 by 1 by 0.5 cm. The duodenal lumen above the mass is moderately dilated, then somewhat constricted at the mass, and then becomes of normal width just distal to the mass.

"The above comprise the significant observations. The jaundice appears to be due to a toxic change in liver parenchyma, that is, the liver is slightly enlarged, edges rounded, and the parenchyma is jaundiced. The liver capsule has fibrinopurulent exudate on it. There is no obstruction to the bile ducts. The gallbladder appears normal. The thymus, heart, lungs, kidneys, and spleen appear essentially normal. Petechiae are present in visceral pleurae and pericardium. Adrenals are congested and the left adrenal contains a cortical adenoma 4 cm. in diameter. The uterus appears normal except for hypertrophy and elongation of the posterior cervical lip. The fallopian tubes and ovaries appear normal. The urinary bladder appears normal. The brain is not examined.

"The pathological diagnosis is acute ulceration of the transverse colon with perforation; acute ulcerative and pseudomembranous colitis; generalized peritonitis; petechiae in visceral pericardium and pleurae; ectopic pancreatic tissue in the wall of the duodenum; cortical adenoma of the left adrenal; and jaundice (toxic)."

SUMMARY

A moderate review of the literature has been made for similar cases without success. The rapid spread of this infection with necrosis and perforation of the colon with generalized peritonitis indicated a very virulent disease in a patient of very lowered resistance. The demonstration of free air in the peritoneal cavity by flat roentgen films emphasizes the importance of this procedure in obscure acute abdominal emergencies.

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MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Dallas, May 5-8, 1947. Dr. C. C. Cody, Jr., Houston, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth 3, Secretary.

American Medical Association, House of Delegates, Chicago, December, 1946; Regular General Session, Atlantic City, N. J., June 9-13, 1947. Dr. Harrison H. Shoulders, Nashville, Tenn., President; Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

Southern Medical Association, Miami, Fla., November 4-7, 1946. Dr. M. Y. Dabney, Birmingham, Ala., President; C. P. Loranz, Empire Building, Birmingham, Ala., Secretary-Manager.

Southwest Allergy Forum, Shreveport, La., April, 1947. Dr. W. H. Browning, Shreveport, La., President; Dr. Sim Hulsey, Medical Arts Bldg., Fort Worth, Secretary.

Texas Association of Medical Anesthetists, Dallas, May, 1947. Dr. Claudia Potter, Temple, President; Dr. Russell Bonham, Box 6237, Houston, Secretary.

Texas Association of Obstetricians and Gynecologists, Galveston, November 2, 1946. Dr. Allen McMurrey, Houston, President; Dr. Julius McIver, 714 Medical Arts Building, Dallas, Secretary.

Texas Chapter, American College of Chest Physicians. Dr. R. G. McCorkle, San Antonio, President; Dr. Elliott Mendenhall, 1217 Medical Arts Bldg., Dallas, Secretary.

Texas Club of Internists. Dr. Robert M. Barton, Dallas, President; Dr. Julian C. Barton, 414 Navarro St., San Antonio, Secretary.

Texas Hospital Association, Houston, March 27-29, 1947. Tol Terrell, Harris Memorial Methodist Hospital, Fort Worth, President; Mrs. Ruth Barnhart, 720 College Ave., Dallas, Secretary.

Texas Neuropsychiatric Association, Dallas, May, 1947. Dr. Fred T. Rogers, Dallas, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Texas Ophthalmological and Otolaryngological Society, Dallas, December, 1946. Dr. C. B. Williams, Mineral Wells, President; Dr. E. D. Dumas, 425 Medical Arts Bldg., San Antonio, Secretary.

Texas Orthopedic Society. Dr. E. A. Cayo, San Antonio, President; Dr. Edward Smith, 1215 Walker Ave., Houston, Secretary.

Texas Pediatric Society, Fort Worth, October 4-5, 1946. Dr. Max Woodward, Sherman, President; Dr. John E. Ashby, 3610 Fairmount, Dallas, Secretary.

Texas Public Health Association, Dallas. Dr. L. P. Walter, Austin, President; Mr. Earle W. Sudderth, Dallas County Health Department, Court House, Dallas, Secretary.

Texas Radiological Society, January, 1947. Dr. Herman Klapproth, Sherman, President; Dr. R. P. O'Bannon, 650 Fifth Ave., Fort Worth, Secretary.

Texas Railway and Traumatic Surgical Association. Dr. F. L. Snyder, Fort Worth, President; Dr. Ross Trigg, First National Bank Bldg., Fort Worth, Secretary.

Texas Society for Mental Hygiene. Dr. Jack R. Ewalt, University of Texas Medical Branch, Galveston, President; Mrs. Elizabeth F. Gardner, 1617 Watchhill Road, Austin 21, Executive Secretary.

Texas Society of Gastro-Enterologists and Proctologists, Dallas, May, 1947. Dr. Tom E. Smith, Dallas, President; Dr. D. L. Curb, 704 Dallas Ave., Houston, Secretary.

Texas Society of Pathologists, Houston, January, 1947. Dr. May Owen, Fort Worth, President; Dr. C. T. Ashworth, Southwestern Medical College, Dallas, Secretary.

Texas State Heart Association, Dallas, May, 1947. Dr. Robert M. Barton, Dallas, President; Dr. M. B. Whitten, Medical Arts Bldg., Dallas, Secretary.

Texas Surgical Society, Houston, October 7-8, 1946. Dr. G. V. Brindley, Temple, President; Dr. Walter Stuck, 1426 Nix Professional Building, San Antonio, Secretary.

Texas Tuberculosis Association, Houston, September 16-17, 1946. Dr. J. B. White, Amarillo, President; Miss Pansy Nichols, 700 Brazos, Austin, Executive Secretary.

Third Panhandle, District Medical Society, Lubbock, October 8-9, 1946. Dr. W. A. Carroll, Claude, President; Dr. George Powers, Fisk Bldg., Amarillo, Secretary.

Fourth District Medical Society, Brady, November, 1946. Dr. H. L. Locker, Brownwood, President; Dr. Glenn H. Ricks, Brady, Secretary.

Seventh, Austin, District Society, Austin, July, 1946. Dr. Robert B. Morrison, Austin, President; Dr. M. I. Brown, Capital National Bank Bldg., Austin, Secretary.

Eighth, Ninth and Tenth Districts Medical Society, Orange, April, 1947. Dr. Walter F. Hasskarl, Brenham, President; Dr. George W. Waldron, Medical Arts Bldg., Houston, Secretary.

Eleventh District Society, Palestine, October, 1946. Dr. L. L. Travis, Jacksonville, President; Dr. C. B. Young, 929 S. Confederate, Tyler, Secretary.

Twelfth, Central Texas District Society, Corsicana, July 9, 1946. Dr. Thomas G. Glass, Marlin, President; Dr. H. F. Connally, Jr., Amicable Bldg., Waco, Secretary.

Thirteenth, Northwest District Society. Dr. A. L. Roberts, Fort Worth President; Dr. Joe R. Wise, 1212 W. Lancaster, Fort Worth, Secretary.

Fourteenth District Society, Dallas, December 10, 1946. Dr. C. B. Thayer, Gainesville, President; Dr. V. L. Tuck, Sherman, Secretary.

Fifteenth, Northeast Texas, District Society, October 8, 1946. Dr. Frank Littlejohn, Marshall, President; Dr. Henry H. Neihuss, Greggton, Secretary.

CLINICS

Dallas Southern Clinical Conference, Dallas, March 17-20, 1947. Miss Thelma J. Webb, 1133 Medical Arts Bldg., Dallas 1, Executive Secretary.

Post Graduate Medical Assembly of South Texas, Houston, December 3-5, 1946. Secretary, 229 Medical Arts Building, Houston.

BIOLOGICAL PHOTOGRAPHIC ASSOCIATION

The Biological Photographic Association will meet at Hotel Bismarck, Chicago, September 6-8. The planning and production of teaching motion picture films will be discussed by experts. New equipment for both still and motion picture photography will be demonstrated. Discussions will be held on the preparation of scientific exhibits; the classifications, indexing, and filing of medical illustrative material, and the Veterans Administration's program for obtaining medical illustration material will be described.

The Biological Photographic Association, a nonprofit organization, was formed in 1931 to raise the standards in photography for teaching and research, and to act as a clearing-house for information on photographic methods. Further information may be obtained from the Secretary, Biological Photographic Association. University Office, Magee Hospital, Pittsburgh 13, Pa.

TEXAS TUBERCULOSIS ASSOCIATION

Texas Tuberculosis Association officers are planning simultaneous programs for medical workers and for nonmedical and lay workers at the annual meeting September 16-17 at the Rice Hotel, Houston, the first such meeting held in several years. In addition to the scientific and educational programs, business meetings of the association and of its board of directors and of the Texas Chapter, American Trudeau Society and the Texas Conference of Tuberculosis Secretaries will be held.

Dr. Julius Lane Wilson, associate professor of medicine, Tulane University, New Orleans, and past-president of the American Trudeau Society, will deliver the principal address at a dinner-business meeting of the Texas Tuberculosis Association the evening of September 16. The Trudeau Society and the Tuberculosis Secretaries will have luncheon meetings the same day, while the following day one luncheon will be held for the board of directors of the Tuberculosis Association and another for nonmembers of the board, at which Dr. F. A. Musacchio, director of the Webb County Health Unit, will speak.

The public health program, for nonmedical workers in tuberculosis associations and health departments and lay members of boards of directors, is being arranged by Miss Emmeline Renis, Houston; Mrs. Agnes George, Beaumont; and Mrs. Virginia Kiker, Tyler. Program planning in health education and for tuberculosis nurses, rehabilitation of the tuberculous, development of social services for tuberculosis patients, personnel and administrative problems of local tuberculosis associations, and education programs among special racial groups will be considered. Dr. R. Alec Brown, Houston, will speak on x-ray in mass case finding programs. Dr. Howard E. Smith, Austin, will discuss the paper.

The medical section program is being prepared by a committee from the Texas Chapter of the American Trudeau Society, composed of Dr. J. Edward Johnson, Austin, chairman; Dr. Edwin G. Faber, Tyler; Dr. Robert J. Hanks, Waco; Dr. Howard E. Smith, Austin; and Dr. James E. Dailey. Houston. The tentative scientific program arranged by this committee follows:

MEDICAL SECTION PROGRAM

A Rare Tumor of the Bronchus with Successful Pneumonectomy: Case Report—Dr. J. R. Phillips, Houston, and Dr. George R. Hodell, Houston.

Some New Procedures in Tuberculosis Surgery—Dr. Donald Paulson, Dallas.
Discussion—Dr. J. W. Nixon, San Antonio.

Legislative Implications of Adequate Tuberculosis Control—Dr. J. W. Laws.

Tuberculosis and Cancer of the Lung: Errors in Diagnosis—Dr. H. T. Barkley, Houston.

Pulmonary Resection for Lung Suppuration—Dr. James E. Dailey, Houston.

The Problem of Tuberculosis in Industry—Dr. Carl U. Dernehl, Galveston.

Mediastinal Emphysema and Pneumothorax in Newborn Infants—Dr. George W. Salmon, Houston.
Discussion—Dr. Sim Hulsey, Fort Worth.

Physical Examination of the Chest in Pulmonary Disease—Dr. James A. Greene, Houston.
Discussion—Dr. David McCullough, Kerrville.

Bronchoscopy in Pulmonary Disease—Dr. Robert G. Shaw, Dallas.
Discussion—Dr. John Chapman, Dallas.

Certain Cardiovascular Diseases Commonly Confused with Pulmonary Disease—Dr. Don W. Chapman, Houston.
Discussion—Dr. Tinsley Harrison, Dallas.

Fungus Diseases of the Lungs—Dr. David Smith, Durham, N. C.

X-Ray Conference—Dr. Russell H. Morgan, Chicago, Ill.

MEDICAL OFFICERS RETURNING TO TEXAS*

(Corrections: G. F. Mood, formerly of Houston, has returned to Greenville, Miss.; Roger Stevenson, formerly of San Antonio, to Kerrville.)

NAME	Serv.†	Location	Release Date
Anderson-Houston-Leon Counties			
5. Carrington, Dewitte C.	A	Marquez	
6. Pickett, William H.	A	Palestine	
Angelina County			
4. Clement, Jennings C.	A	Lufkin	
Bexar County			
109. Borsheim, Raymond S.	A	San Antonio	
110. Gossett, Robert F.	A	San Antonio	
111. Hudson, Granville W.	A	San Antonio	
112. Kellam, Seth W.	A	San Antonio[1]	
113. Loehr, William M.	A	San Antonio	
114. Moore, Samuel F., Jr.	A	San Antonio	
115. Ponder, Stewart M.	A	San Antonio	
116. Ritch, Allen	A	San Antonio	
117. Timmins, Oliver H., Jr.	A	San Antonio	
118. Tritt, Earl F.	A	San Antonio	
119. Worsham, John W.	A	San Antonio	
Brown-Comanche-Mills-San Saba Counties			
13. McDaniel, MacField	A	May	Apr., 1946
Cameron-Willacy Counties			
13. Merrill, Samuel J.	A	Brownsville	
Cherokee County			
5. Boyd, James T.	A	Jacksonville	
Clay-Montague-Wise Counties			
3. Major, Robert A.	A	Bowie	
Collin County			
6. Wysong, Charley E.	A	McKinney	
Crane-Upton-Reagan Counties			
1. Cooper, William H.	A	McCamey	
Dallas County			
163. Burgess, George A.	A	Dallas	
164. Bush, Walter H.	A	Dallas	
165. Grafton, Edwin G., Jr.	A	Dallas	
166. Guller, Emanuel J.	A	Dallas	
167. Halpern, Salmon R.	A	Dallas	May, 1946
168. Harper, Robert W.	A	Dallas	
169. Hartin, Richard B.	A	Dallas	
170. Hodges, Harold C.	A	Dallas	
171. Knight, Marvin P.	A	Dallas	
172. Lee, Ridings E.	A	Dallas	
173. LoBello, Leon C.	A	Dallas	
174. McClellan, William W.	A	Dallas	
175. Mohle, Chester L.	A	Dallas	
176. Upshaw, Jackson E.	A	Dallas	
177. Vassallo, Harry R.	A	Dallas	
Dawson-Lynn-Terry-Gaines-Yoakum Counties			
7. Standifer, Lilburn E.	A	Lamesa[2]	
Denton County			
6. Cox, Joseph M.	A	Denton	
Eastland-Callahan Counties			
4. Harris, Calvin W.	A	Ranger	July, 1946
5. Watkins, Wirter P.	A	Eastland[3]	Mar., 1946
Ector-Midland-Martin-Howard-Andrews-Glasscock Counties			
11. Absher, L. Alton	A	Midland	Apr., 1946
El Paso County			
43. Cameron, David M.	A	El Paso	June, 1946
44. Cuen, M. J.	A	El Paso[4]	
45. Galatzan, Joe S.	A	El Paso[5]	Dec., 1945
46. Gallagher, Paul	A	El Paso	
47. Gardner, Wray R.	A	El Paso	
El Paso County—Continued			
48. Glasier, W. A.	A	El Paso[1]	
49. Hughes, Raymond P.	A	El Paso	
50. McMahan, George T.	A	El Paso[2]	
51. Tubbs, W. M.	A	El Paso[3]	
Falls County			
6. Brown, James M.	A	Marlin	Apr., 1946
Fannin County			
7. Stafford, F. B.	N	Trenton[4]	
8. Stevens, Joe L.	A	Bonham[5]	May, 1946
Galveston County			
44. Koch, Calvin O.	A	Galveston	
45. Parker, Charles A.	A	Galveston	
46. Reed, Roy G.	A	Lamarque[6]	May, 1946
47. Schubert, Herbert A.	A	Galveston	
Gray-Wheeler Counties			
5. McDaniel, Roy		Pampa	
6. Zeigler, Paul	A	Shamrock	
Grayson County			
12. Etter, Edward F.	A	Sherman	
Hale-Floyd-Briscoe-Swisher Counties			
6. Gee, Kenneth J.	A	Tulia	
7. Mitchell, Robert H.	A	Plainview	
Hardeman-Cottle-Foard-Motley Counties			
1. Fish, John H.	A	Paducah	
2. Sitta, Raymond E.	A	Chillicothe[7]	June, 1946
Hardin-Tyler Counties			
2. Dickerson, Joe W.	A	Rockland	
Harris County			
220. Arnold, Jasper H.	A	Houston	
221. Braden, Albert H.	A	Houston	
222. Harris, Herbert H.	A	Houston	
223. Jones, Joseph R.	A	Houston	
224. Kaminsky, Dave	N	Houston	June, 1946
225. Mitchell, A. Lane	N	Houston	
226. Orman, Forrest C.	A	Houston	
227. Parrish, Frank F.	A	Houston	
228. Paton, Donald M.	A	Houston	Mar., 1946
229. Slataper, Eugene L., Jr.	A	Houston	
Harrison County			
8. Carter, Ray H.	A	Marshall	
9. Payne, John E., Jr.	A	Marshall	
Hidalgo-Starr Counties			
10. Casey, John B.	A	McAllen	
11. Solis, Rene A.	A	Rio Grande City	
Hopkins-Franklin Counties			
4. Stevens, Thomas H.	A	Sulphur Springs	
Hunt-Rockwall-Rains Counties			
12. Dickens, William M.	A	Greenville	
Hutchinson-Carson Counties			
2. Wallace, Henry G.	A	Borger	
Jasper-Newton Counties			
7. Kaufman, Carl K.	A	Jasper	
Jefferson County			
49. Allison, F. Peel	A	Beaumont	May, 1946
50. Tyner, Furman H.	A	Port Arthur	
Johnson County			
5. Altaras, Leon M.	A	Cleburne	
Kaufman County			
6. Livingston, Edward N.	A	Terrell	
Kerr-Kendall-Gillespie-Bandera Counties			
9. Jones, Charles C., Jr.	A	Kerrville	
10. Powers, Harry J.	A	Legion	
11. Zeritsky, Samuel A.	A	Legion	
Lamar County			
7. Townsend, Courtney M.	A	Paris	
8. Woodfin, George S.	A	Paris	
Lampasas-Burnet-Llano Counties			
3. Hoerster, Henry J.	A	Llano	
Lubbock-Crosby Counties			
20. Loveless, James E.	A	Slaton	
McLennan County			
31. Brannon, E. P.	A	McGregor	June, 1946
32. Bullard, Ray E.	A	Waco	
33. Connally, H. Frank, Jr.	A	Waco	
34. Lauck, Robert E., Jr.	A	Waco	
35. Poore, Alfred M.	A	Waco	
36. Russo, Emilio N.	A	Waco	
37. Scanio, Thomas J.	A	Waco	Apr., 1946

*EDITOR'S NOTE: This list is the tenth of a series in which it is hoped to name all those physicians who have been in the Armed Forces during the war just passed and have now returned to Texas to resume civilian practice. The information in this list has been assembled from a variety of sources. While an attempt has been made to secure as complete and as accurate data as possible, we are aware that omissions and errors have been made. Not only for publication in the JOURNAL but also for the permanent records in the central office of the State Medical Association, we invite and urge correction of and addition to the material here submitted. Note that physicians from each county area are numbered consecutively following those listed in the July JOURNAL; the last number in each section therefore indicates the total physicians returned to that county area. The complete total for Texas named to date (July 25), including the accompanying list, is 1,499.

†A=Army; N=Navy; U=U. S. Public Health Service.

[1]Formerly of Midland.
[2]Formerly of Austin.
[3]Formerly of Dallas.
[4]Formerly of Ysleta.
[5]Formerly of Silver City.
[6]Formerly of Carlsbad.
[7]Formerly of Dallas.
[8]Formerly of Silver City.
[9]Formerly of Leonard.
[10]Formerly of Leonard.
[11]Formerly of Cameron.
[12]Formerly of Rosenberg.

NAME	Serv.†	Location	Release Date
Medina-Uvalde-Maverick-Val Verde-Edwards-Real-Kinney-Terrell-Zavala Counties			
6. Bourdon, Evan C.	A	Uvalde	
7. Guice, LeRoy E.	A	Sabinal	Feb., 1946
Montgomery County			
1. Bellnoski, William O., Jr.	A	Willis	
2. Shapiro, Jake	A	Conroe	
Nolan-Fisher-Mitchell Counties			
9. Wilkinson, Robert T.	A	Rotan	
Nueces County			
30. Gray, Paul M.	A	Corpus Christi	
31. Grossman, Bernard B.	A	Corpus Christi	
32. Grossman, David N.	A	Corpus Christi	
33. Knapp, Roger S.	N	Corpus Christi[1]	
34. Swearingen, Robert G.	A	Corpus Christi	
Orange County			
2. Barclay, L. H.		Orange[2]	
Palo Pinto-Parker Counties			
10. McCloud, Ben L., Jr.	A	Mineral Wells[3]	
Polk-San Jacinto Counties			
2. Berton, F. Frink	A	Corrigan	
Potter County			
28. Carroll, James R.		Amarillo	
Runnels County			
3. Rives, C. T.	A	Winters	Apr., 1946
Rusk County			
9. Suehs, Herbert A.	A	Henderson	
San Patricio-Aransas-Refugio Counties			
8. Tasch, Aloysius F.	A	Taft	
Scurry-Dickens-Kent-Garza-Borden-King-Stonewall Counties			
6. Howle, Thomas M.	A	Snyder	
7. Redwine, Harry P.	A	Snyder	
Shelby-San Augustine-Sabine Counties			
5. Bennett, Noel T.	A	San Augustine	

[1]Formerly of Aransas Pass.
[2]Formerly of Houston County.
[3]Formerly of Graford.

NAME	Serv.†	Location	Release Date
Smith County			
11. Golenternek, Joe	A	Tyler	
Tarrant County			
75. Hall, Ewin P., Jr.	A	Fort Worth	
76. Howell, William L.	A	Fort Worth	
77. Lightbody, Kenneth A.	A	Fort Worth	
78. Wilson, Stephen W.	A	Fort Worth[1]	
Titus County			
2. Caldwell, Pearson C.	A	Mount Pleasant	
Tom Green-Coke-Crockett-Concho-Irion-Sterling-Sutton-Schleicher Counties			
13. Byars, Perry J. C.	A	San Angelo[2]	Feb., 1946
14. Nibling, Boyd	A	San Angelo[2]	
15. Wall, D. D.	A	San Angelo	
Travis County			
41. Davis, Nathan	A	Austin	
42. Rabb, Virg S., Jr.	A	Austin	
43. Ravel, Jerome	A	Austin	
44. Wilborn, Sam W.	A	Austin	
Upshur County			
1. Fenlaw, Joseph L.	A	Gilmer	Jan., 1946
Victoria-Calhoun-Goliad Counties			
3. Hartwick, Fred W.	A	Victoria	
4. Lester, Stanley W.	A	Port Lavaca	Feb., 1946
5. Smith, David H.	A	Victoria	
Washington County			
4. Hansen, Carl M.	A	Washington	
Wharton-Jackson-Matagorda-Fort Bend Counties			
11. Sanford, E. B.	A	Palacios[4]	June, 1946
Wichita County			
20. Harrison, W. T.	N	Electra	
21. Huff, Mark E.	A	Wichita Falls	
22. Humphrey, Irving L.	A	Wichita Falls	
23. Simmons, Lillard N.	A	Wichita Falls	
Wood County			
2. Matthews, Choice B.	A	Alba[5]	
Young-Jack-Archer Counties			
9. Hunt, Walter E.	A	Graham	

[1]Formerly of Linden.
[2]Formerly of Galveston.
[3]Formerly of Beaumont.
[4]Formerly of Port Arthur.
[5]Formerly of Houston.

INCREASE IN HOSPITAL ADMISSIONS

During 1945 one patient was admitted to a hospital in the continental United States every 1.9 seconds and a live baby was born in a hospital every 16 seconds, according to the 25th annual report of the Council on Medical Education and Hospitals of the American Medical Association.

F. H. Arestad, M. D., and M. G. Westmoreland, M. D., present the Council report in the April 20 issue of *The Journal of the American Medical Association*. Their figures reveal that in comparison with 1944 the number of hospital beds has increased from 1,729,945 to 1,738,944, the number of admissions from 16,036,848 to 16,257,402, the number of patient days from 475,607,484 to 512,915,155 and the number of hospital births from 1,919,976 to 1,969,667.

Represented in the report are 6,511 hospitals registered by the American Medical Association, including 1,156 hospitals approved for internships and residencies and 2,625 accredited by the American College of Surgeons as meeting unconditionally its minimum requirements for general standardization. The number of hospitals totals 100 less than reported in 1944.

Both governmental and nongovernmental hospitals showed a slight increase in bed capacity last year, the governmental group reporting 1,356,718 or 78 per cent of all beds, the nongovernmental hospitals 382,226 or 22 per cent. The federal hospitals which expanded rapidly during the war had a net loss of 4,751 beds compared with 1944.

In the present survey the general hospitals reported 922,549 beds as compared with 925,818 in 1944. This represents a net decrease of 3,269 whereas the previous year showed an increase of 75,242. With their present facilities the general hospitals have 53 per cent of all beds.

There were 16,257,402 admissions exclusive of outpatients and newborn infants in 1945. This is equivalent to 12.3 per cent of the total population according to the U. S. Census of 1940. Since 1935 the admissions in the hospitals registered by the American Medical Association have more than doubled in number. The greatest annual gain occurred in 1943 when an increase of 2,829,088 was reported. The following year showed an increase of 662,150 while the present survey indicates a net gain of 220,554 in comparison with 1944.

The governmental hospitals with 78 per cent of the bed capacity reported 6,399,113 admissions or 39 per cent of the patients admitted in 1945. The nongovernmental hospitals which received 61 per cent had 9,858,289. Both groups showed a substantial increase in hospital admissions in 1944 but in the present survey the governmental hospitals showed a net loss of 146,107 as compared with the previous year.

General hospitals supply the greatest volume of hospital service in the United States. Last year they admitted 15,228,270 patients—93.6 per cent of all admissions—and maintained an average daily patient load of 665,105. In addition they gave care to 1,907,772 newborn infants, 96.8 per cent of all live births reported in the registered hospitals in 1945. The nongovernmental general hospitals had a total of 9,371,874 admissions, the federal general hospitals 3,898,995 and the other governmental general hospitals 1,957,401.

The mental hospitals with 37.7 per cent of all beds had 248,876 admissions or only 1.5 per cent of the total patients admitted in 1945. In comparison

with 1944 there was an increased number of mental patients admitted in all nongovernmental groups. The mental hospitals under state, county and municipal control showed a slight decrease, but the federal division reported an increase of 13,147. The total gain in relation to the previous year was 22,483.

The tuberculosis sanatoriums showed a continued decrease in the number of patients admitted as evidenced by the present report of 86,186 admissions as compared with 88,281 in 1944.

The enormous volume of service rendered by hospitals in the United States is likewise reflected in the daily patient load, which averaged 1,405,247 in 1945 exclusive of newborn infants. For the first time also the daily census in general hospitals exceeded the patient load of the mental institutions, the latter reporting an average of 624,349 as compared with 665,105 in the general hospital section. In the previous year the corresponding figures were 618,951 and 570,331 respectively.

For the period represented in this report the registered hospitals in the United States had 13.2 beds per 1,000 population. The actual utilization of hospital beds, however, as determined in relation to the average daily census, was 10.6 beds per 1,000 population.

The governmental hospitals reported 315,149 births in 1945, the church related hospitals 665,153, the other nonprofit associations 793,220 and the proprietary institutions 196,145. The comparative figures for 1944 were 293,424, 652,761, 773,489 and 200,302 respectively. Last year the increase in hospital births was 49,691 whereas the previous year showed a decrease of 4,615. In 1942 and 1943, however, increases of 265,659 and 253,992 were reported.

Registered hospitals reported employing 144,724 graduate nurses exclusive of 25,277 private duty nurses during the latter part of 1945. The corresponding figures for 1944 were 125,458 and 23,949.

In connection with the present survey, state accredited schools of nursing reported a student enrollment of 130,909 as compared with 129,879 in 1944 and 110,222 in 1943.

EXERCISE FOLLOWING HIGH BLOOD PRESSURE SURGERY

Two New York physicians—Jere W. Lord, Jr., and J. William Hinton—advocate early exercise for patients after they undergo operations for relief of high blood pressure.

Physicians heretofore have generally prescribed bed rest following such operations, but the New York doctors, after carrying out tests on 30 consecutive patients, now believe that exercise is more helpful than bed rest in keeping down blood pressure.

Their study, reported in the December 22 issue of *The Journal of the American Medical Association*, showed that exercise after surgery caused no significant change in the level of the blood pressure.

The blood pressure readings were taken with the patient in different positions—lying down, sitting, and standing. Then the pressure was taken again after the patient exercised by stepping up and down onto a low foot stool, first with one leg and then with the other for 20 times in all.

The New York doctors cite the case of one patient, a man 42, who was suffering from malignant hypertension. The resting blood pressure of 280/180 rose to 300/195 following exercise. One month after he underwent surgery on the sympathetic nervous system, his resting level was 145/125, which after exercise fell to 110/100. Three months later, the patient's resting blood pressure was 130/80.

"In the series of 30 patients," the doctors wrote, "the average postoperative fall in the resting diastolic blood pressure was 15 millimeters (mercury instrument). However, when the preoperative and postoperative diastolic levels following exercise were compared, an average fall of 32 millimeters was observed."

HOSPITALS NEEDING INTERNS AND RESIDENTS

Methodist Hospital, Dallas. Capacity 206 beds. C. B. Fielder, Superintendent (interns desired, July, 1947).

El Paso City County Hospital, El Paso. Capacity 192 beds. George W. Cook, Col., U. S. A., Ret., Superintendent (3 interns for one year term, graduates of class A medical school only).

PHYSICAL REHABILITATION CENTERS

The need for additional rehabilitation services and centers where the disabled and handicapped can receive post-hospital physical rehabilitation, psychosocial adjustment, and vocational guidance and retraining is stressed in the final report of the subcommittee on civilian rehabilitation centers issued recently by the Baruch Committee on Physical Medicine.

The report, prepared by a group of six authorities with military and civilian rehabilitation experience, blueprints the organization and operation of model community rehabilitation centers. Emphasizing that such centers should integrate rather than duplicate the work of existing agencies, it outlines the organization and operation of proposed centers which would offer physical medicine (physical therapy, occupational therapy, physical rehabilitation), psycho-social adjustment, vocational guidance, social service, vocational education, special education for the handicapped, a sheltered workshop, brace and limb shop, research in rehabilitation, and an industrial program for the homebound.

The centers would not provide definitive medical treatment, but would bridge the gap between the bed and the job by following preventive and curative medicine and surgery with what the committee terms "the third phase of medical care."

The report suggests that the envisioned centers might be established by communities as "living war memorials" by the action of local governments, civic groups, social agencies, or medical schools and hospitals. They point out that both the construction and operating costs of such centers would be considerably less than for hospitals and would release needed hospital beds for sick patients.

In addition to large highly specialized urban centers, the report stresses the need for a system of mobile consultant clinics comparable to those which have been used in the cancer and crippled children's programs in order to carry opportunity to the isolated, disabled person.

EFFECTIVE VACCINE AGAINST DENGUE FEVER

An effective vaccine has been obtained against dengue fever, it was announced recently by the Commission on Neurotropic Virus Diseases of the Army Epidemiological Board.

This malady, which occurs in epidemics and sometimes pandemics through the warmer portions of the temperate zone, is due to a filtrable virus. It is characterized by an intermittent fever, rash on the skin, and often excruciating pains in the joints. The name has been identified with the Spanish "dengue," meaning "stiffness or primness," and is supposedly descriptive of the curious cramped movements of a sufferer.

The virus first was isolated in Hawaii by army doctors and brought to the United States where it has undergone thirty-two consecutive passages through the brains of mice. In the course of these passages it underwent a curious mutation, whereby it has lost its capacity to produce in men the severe illness and protracted fever characteristic of the

original disease. It has retained, however, its ability to produce the measles-like rash and it gives subsequent immunity to the unmodified dengue virus. The immunizing dose is very small. The extract from the brain of a single mouse has been found to contain at least 10,000 such doses. The new vaccine is prepared from this modified virus.

There remains the possibility that there may be several strains of the dengue virus—as is known to be the case for several other viruses, such as that which causes influenza. However, two additional virus samples brought from India have been found immunologically identical with the original Hawaiian strain. Repeated attempts have been made to isolate still another strain by inoculating volunteer human subjects with sera obtained in the Philippines and Okinawa during apparent dengue outbreaks. These have been unsuccessful.

It also has been found possible to propagate in chick embryos the dengue virus after about eighteen passages through mouse brains.

Two strains of alleged dengue virus obtained from Japan have been found quite different from the Hawaiian and Indian strains—different, in fact, from any other known virus.—S. G. O. Notes, May 15, 1946.

NEED OF BARBITURIC LEGISLATION

Fourteen states and the District of Columbia at present have no law regulating the sale and distribution of barbiturates, commonly known as sleeping pills, according to the December 29 issue of *The Journal of the American Medical Association.*

At a recent conference of various groups and government agencies, sponsored by the Committee on Legislation of the American Pharmaceutical Association, the problem came up for study because even the states that do provide laws for the control of this drug are lax in enforcing them.

The Journal said editorially:

"Discussion was held on barbiturate regulation, barbiturate habituation and tolerance, and the medical, pharmaceutical and legal aspects of the problem. At this time fourteen states and the District of Columbia have no law regulating the sale and distribution of barbiturates. The laws in the other states are not uniform and have been subjected to much abuse. Today many people are aware of the action of this group of drugs; accidental deaths, suicides and ill health directly attributable to the effect of the drugs are on the increase. Careless prescribing, direct sales to the consumer, and 'bootleg' distribution have aided those who are determined to get the drug. Some have proposed the adoption of a federal law which would regulate the distribution of barbiturates much as opium derivatives are now controlled. More are in favor of control on the state level, particularly if a uniform state act can be formulated and adopted."

SALICYLIC ACID IN RHEUMATIC FEVER

Rheumatic fever infection has been effectively suppressed in a group of patients treated with small doses of a powerful and poisonous drug called salicylic acid during the acute phase of the disease, according to Comdr. R. C. Manchester, M. C., U. S. N. R. The report appears in the May 18 issue of *The Journal of the American Medical Association.*

Rheumatic fever is a disease which may recur often causing permanent damage to the heart. It is the most frequent cause of heart disease in persons under middle age. The bacteria hemolytic streptococci are believed to be the accessories, if not the cause, of rheumatic fever.

Fifty-four enlisted naval men afflicted with acute rheumatic fever were treated with salicylates. Two methods were employed—injections into the veins and administration by mouth. The drug was given in conjunction with sodium bicarbonate to neutralize the gastric acid, since it is not well tolerated alone by the stomach.

Thirty-five of the patients received injections of 10 mg. of the salicylate daily from four to ten days and then were given the drug by mouth. The other 19 received the drug by mouth only. The author states that treatment by injection is more effective in alleviating the acute manifestations, such as fever and pain. However, taken by mouth daily, the drug satisfactorily suppresses rheumatic infection.

Some of the mild reactions noted by the author were nausea, vomiting, deafness, ringing sound in the ears, dizziness, and sweating. Serious reactions which interrupted treatment were delirium, labored breathing, excessive vomiting, pain, and skin eruptions.

Severe delirium was observed in 17 per cent of the 35 patients who received injections of the drug. Also known as "acute salicylism," the condition is most likely to occur in acutely ill patients who have not built up tolerance to the drug before treatment begins. Because the injection method is the more desirable form of treatment in the acute cases, the delirium is not preventable in all instances. Such patients must be carefully observed for the first signs of mental confusion so that the medication can be promptly discontinued before severe delirium occurs.

The author suggests that the salicylate treatment be continued until the sedimentation rate of the red blood cells has remained normal for two weeks. This is determined by timing the rate at which red blood cells drop to the bottom of a test tube. While the disease is in its active stage the sedimentation rate is high. It declines as the infection subsides; therefore it is a very useful method of checking on the patient's progress.

A. M. A. COUNCIL REPORTS

COUNCIL ON PHARMACY AND CHEMISTRY

Potencies of Vitamin A Preparations Accepted by the Council

The Council has authorized publication of the following statement.

Austin Smith, M. D., *Secretary.*

From time to time the Council office has received inquiries from manufacturers as to the acceptability of vitamin A preparations in dosages of potency ranging from 50,000 units to 150,000 units or more. The Council has previously accepted no dosage of potency higher than 25,000 units. The Council believes that this policy should be continued. In reaching this conclusion, the Council is not concerned with toxic effects of vitamin A from the administration of capsules of higher potency. This view is based on the fact that to encourage the use of very large doses of vitamin A would not be in the interest of good medical practice. If those interested in doing investigational work desire to experiment with daily dosages of the order of 50,000 to 150,000 or more units they may use multiples of a 25,000 unit dosage. The Council finds no justification for routine administration of doses in excess of 25,000 units per day.

COUNCIL ON INDUSTRIAL HEALTH AND COUNCIL ON PHARMACY AND CHEMISTRY

Aluminum in the Prevention and Treatment of Silicosis

The Council on Industrial Health and the Council on Pharmacy and Chemistry of the American Med-

ical Association have authorized publication of the following report on the use of aluminum in the prevention and treatment of silicosis. Since this means of therapy is controlled by patent and can be used only by licensees, studies will be continued by the two councils into this phase of the subject. Further reports will be issued as indicated.

CARL M. PETERSON, M. D.,
Secretary, Council on Industrial Health.
AUSTIN E. SMITH, M. D.,
Secretary, Council on Pharmacy and Chemistry.

The dissemination of reports on the effects of aluminum powder in the prevention and treatment of silicosis has aroused widespread interest and a demand for an authoritative statement regarding its value. At the present time the following statement would seem to be warranted; it is subject, however, to such modification as future knowledge and experience may indicate.

1. In experimental animals the *prophylactic* use of aluminum inhibits the toxic action of relatively pure quartz.

2. In man, industrial dust exposures often involve mixtures of various minerals in addition to quartz and other environmental variables to which experimental animals are not subject. Therefore human silicosis usually develops more slowly and is often modified in type. Only prolonged unbiased observation, with adequate control cases, will demonstrate whether the prophylactic results obtained with animals are applicable to man.

3. Animal experiments have demonstrated that administration of high concentrations of amorphous hydrated alumina unfavorably influences resistance to tuberculosis. While this result has not yet been reported for metallic aluminum, caution in the application of all aluminum therapy to human beings is recommended.

4. The use of aluminum might appear as an easy short-cut to healthful working conditions, thus saving large expenditures for ventilation and other control methods. Actually there is no substitute for the accepted methods of dust control.

5. If industry indiscriminately treats all employees with aluminum dust, there may be aggravation of tuberculosis or other pulmonary conditions.

6. The *therapeutic* use of aluminum in man appears to relieve symptoms in a very small number of cases in which silicosis develops rapidly. Experience in some groups is more favorable than in others.

7. In view of these considerations it is recommended that the general application of aluminum therapy in industry be delayed until adequately and impartially controlled clinical observation demonstrates its effectiveness in preventing or alleviating silicosis in man. In the meantime, there should be no slackening in the control measures that have been found effective in reducing the incidence of dust diseases in industry.

—J. A. M. A., May 11, 1946.

COUNCIL ON FOODS AND NUTRITION

ACCEPTED FOODS

The following additional foods have been accepted as conforming to the Rules of the Council on Foods and Nutrition of the American Medical Association for admission to Accepted Foods.

JAMES R. WILSON, M. D., *Secretary.*

Preparations Used in the Feeding of Infants (See Accepted Foods, 1939, p. 156).

SWIFT & COMPANY, CHICAGO

Swift's Meats for Juniors, including Diced Beef, Diced Pork, Diced Lamb, Diced Veal, Diced Beef Liver and Diced Calf Heart, are made from meats trimmed of fat, sinews and connective sheaths with added salt, prepared under inspection of the Meat Inspection Division of the United States Department of Agriculture.

Analysis (submitted by manufacturer).—

	Moisture, %	Protein, %	Fat, %	Ash, %
Diced beef	74.7	22.63	1.70	1.47
Diced pork	70.7	21.81	6.48	1.51
Diced lamb	74.3	18.19	6.3	1.41
Diced veal	76.7	20.38	2.1	1.52
Diced beef liver	70.2	21.56	4.33	1.68
Diced calf heart	76.3	18.19	3.35	1.44

Mineral Components:

	NaCl, %	Calcium, Mg./100 Gm.	Phosphorus, Mg./100 Gm.	Iron, Mg./100 Gm.
Diced beef	0.47	10	210	3.3
Diced pork	0.48	14	200	1.5
Diced lamb	0.53	18	180	2.4
Diced veal	0.47	11	210	1.6
Diced beef liver	0.48	30	330	7.2
Diced calf heart	0.41	15	220	4.8

Vitamins:

	Thiamine, Mg./100 Gm.	Riboflavin, Mg./100 Gm.	Niacin, Mg./100 Gm.
Diced beef	0.017	0.326	4.68
Diced pork	0.452	0.238	3.74
Diced lamb	0.042	0.287	5.33
Diced veal	0.052	0.350	6.28
Diced beef liver	0.03	2.200	7.10
Diced calf heart	0.156	1.067	4.44

Total Calories:

Diced beef	1.05 per gram
Diced pork	1.45 per gram
Diced lamb	1.30 per gram
Diced veal	1.00 per gram
Diced beef liver	1.25 per gram
Diced calf heart	1.03 per gram

Swift's Meats for Babies, including Strained Beef, Strained Pork, Strained Lamb, Strained Veal, Strained Beef Liver and Strained Calf Heart, are made from meats trimmed of fat, sinews and connective sheaths with added broth and salt and are prepared under inspection of the Meat Inspection Division of the United States Department of Agriculture.

Analysis (submitted by manufacturer).—

	Moisture, %	Protein, %	Fat, %	Ash, %
Strained beef	78.6	17.69	3.01	1.21
Strained pork	75.0	17.06	6.04	1.15
Strained lamb	79.0	15.63	4.48	1.32
Strained veal	82.1	16.38	1.04	1.19
Strained beef liver	78.2	15.94	4.26	1.22
Strained calf heart	82.7	13.38	2.51	1.20

Mineral Components:

	NaCl, %	Calcium, Mg./100 Gm.	Phosphorus, Mg./100 Gm.	Iron, Mg./100 Gm.
Strained beef	0.30	12	140	2.8
Strained pork	0.38	14	180	1.7
Strained lamb	0.45	16	170	2.3
Strained veal	0.38	17	180	1.6
Strained beef liver	0.53	40	270	7.7
Strained calf heart	0.30	12	150	3.6

Vitamins:

	Thiamine, Mg./100 Gm.	Riboflavin, Mg./100 Gm.	Niacin, Mg./100 Gm.
Strained beef	0.010	0.242	3.24
Strained pork	0.346	0.278	4.74
Strained lamb	0.026	0.264	4.00
Strained veal	0.024	0.288	4.90
Strained beef liver	0.014	2.00	4.41
Strained calf heart	0.064	0.818	4.46

Total Calories:

Strained beef	0.98 per gram
Strained pork	1.22 per gram
Strained lamb	1.03 per gram
Strained veal	0.75 per gram
Strained beef liver	1.02 per gram
Strained calf heart	0.27 per gram

—J. A. M. A., April 6, 1946.

LIBRARY NOTES

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Package Service

Packages were mailed from the Library of the State Medical Association during July, to the following:

Dr. Everett C. Fox, Dallas—*Skin, diseases* (26 articles).

Dr. T. G. Brown, Dumas—*Alcoholism, therapy* (27 articles).

Dr. J. D. Magee, Abilene—*Globus Hystericus* (4 articles); *Eyes, foreign bodies* (8 articles); *Cataract, extraction* (16 articles); *Eyelids, surgery* (7 articles); *Fistula, oroantral* (5 articles).

Dr. L. J. Webster, Abilene—*Anemia* (34 articles).

Dr. Holloway Bush, McKinney—*Syphilis, therapy* (34 articles).

Dr. D. C. Enloe, Sherman—*Pylorus, hypertrophy and stenosis* (12 articles).

Dr. M. L. Stubblefield, Baird—*Blood, groups* (24 articles).

Dr. Victor E. Schulze, San Angelo—*Rickettsia* (10 articles).

Dr. Charles Mims, Mission—*Presbyopia* (6 articles); *Bile Ducts, obstruction* (8 articles); *Conjunctivitis* (23 articles).

Dr. T. L. Denson, Cameron—(2 journals).

Dr. A. J. McNeill, Dallas—(1 journal).

Dr. C. E. Webb, El Paso—*Varicose Veins* (30 articles).

Dr. F. C. Feener, El Paso—(4 reprints, 2 journals).

Dr. O. R. Hand, Lubbock—*Blood, groups* (10 articles).

Medical Library, Veterans Administration, McKinney—(1 journal).

Dr. Herbert J. Bell, El Paso—*Coccidioidosis* (18 articles).

Medical Library, Providence Hospital, Waco—*Gout* (20 articles).

Dr. Charles H. Brown, Wichita Falls—*Poliomyelitis* (23 articles).

Dr. C. R. Finnegan, Dallas—*Jaundice* (24 articles).

Dr. Aubrey L. Lewis, San Angelo—(1 journal).

Dr. Mildred V. Hanna, Glen Rose—*Poliomyelitis* (7 articles).

Dr. Robert L. Dailey, Wichita Falls—*Pericarditis, with effusion* (12 articles); *Sclerosis, disseminated* (15 articles).

Dr. Stanley L. Clayton, Hallettsville—(1 journal).

Dr. J. D. O'Brien, Dallas—*Blood Pressure, High, therapy* (8 articles).

Dr. Heinrich Lamm, La Feria—*Tonsillectomy* (2 articles).

Dr. W. R. Klingensmith, Amarillo—(1 journal).

Dr. Frank C. Hodges, Abilene—*Fractures, therapy* (1 article).

Dr. Hervey W. Dietrich, El Paso—(4 journals).

Dr. C. C. McDonald, Tyler—*Tuberculosis* (8 articles).

Dr. Allan Shields, Victoria—*Roentgenotherapy* (20 articles).

Dr. M. C. Carlisle, Waco—*Brucellosis* (28 articles).

Dr. Leo J. Peters, Jr., Orange—*Appendicitis, traumatic* (8 articles).

Dr. U. S. Marshall, Roswell, N. M.—*Rheumatism* (15 articles).

Dr. Samuel W. Shibler, Temple—*Parathyroid, diseases* (9 articles).

Miss Lillian Overton, Cuero—*Hospitals, administration and organization* (19 articles).

Dr. E. D. McDonald, Santa Anna—*Thyroid, hyperthyroidism* (13 articles).

Mr. D. G. Burk, Big Spring—*Hospitals, administration and organization* (20 articles).

Dr. I. H. Mannheimer, Seguin—*Pelvis, measurement* (14 articles).

Accessions

Chicago, Year Book Publishers—Wiener, Editor: Ophthalmology in the War Years.

Philadelphia, W. B. Saunders Company—Allen, Barker and Hines: Peripheral Vascular Diseases.

Washington, National Research Council—Hawkins, Editor: Scientific, Medical and Technical Books.

Summary

Reprints received, 550.	Local users, 28.
Journals received, 219.	Borrowers by mail, 38.
Items cousulted, 74.	Packages mailed, 46.
Items taken out, 167.	Items mailed, 552.

Total items consulted and mailed, 793.

MOTION PICTURE FILM LIBRARY

Motion picture films on medical subjects, 16 mm., both silent and sound, some in color, and suitable for either medical or lay audiences, are available for loan to county medical societies, hospital staffs, or individual physicians, on request. Borrowers will be required to pay only the cost of shipment of the films, by express, with insurance, and for any damage to films while in the hands of the borrower.

Requests for films should be addressed to "Motion Picture Film Library, State Medical Association of Texas, 1404 West El Paso Street, Fort Worth 3, Texas." A list of available films, with descriptions, will be furnished on request.

The following motion picture films were loaned by the Motion Picture Lending Library of the State Medical Association during July:

From Moo to You (Available through the courtesy of the Borden Company, New York)—The Mexican Baptist Church, Fort Worth.

Immunization (Available through the courtesy of Lederle Laboratories, Inc., New York)—Rotary Club and the Child Study Club, Ranger.

Vitamins and Some Deficiency Diseases (Available through the courtesy of Lederle Laboratories, Inc., New York)—Premedical students, Lamar College, Beaumont.

NEWS

Contributions to this department will be appreciated. News should be of general medical interest, such as public health activities, new hospitals, personal items of more than local value, etc. News for a particular number of the Journal should be in the hands of the Editor not later than the fifteenth of the preceding month.

The American College of Surgeons will meet December 16-20 at the Cleveland Public Auditorium, Cleveland, Ohio, instead of September 9-13 in New York, reports *The Journal of the American Medical Association*. The change in plans was necessitated because the United Nations Assembly caused a shortage of hotel accommodations in New York.

An East Texas Crippled Children's Clinic was held June 27 at Henderson under sponsorship of the Henderson Kiwanis Club, reports the Tyler *Telegraph*. Four Dallas physicians, Drs. Brandon Carrell, Ruth Jackson, Margaret Watkins, and P. M. Girard, conducted examinations. The crippled children's division of the Texas State Health Department also cooperated in making possible the free examinations. A similar clinic has been held annually in Henderson since 1933.

Health in Port Arthur was the general theme June

18 for the first in a series of public radio forums sponsored by the local Junior Chamber of Commerce, according to the Port Arthur *News*. Dr. L. C. Heare, chairman of the Chamber of Commerce health committee, called for greater efforts in cleaning up the community and complimented city and county health officers for their work. Dr. B. W. Wood, city health officer, discussed poliomyelitis conditions in Port Arthur. Dr. J. M. White, county health officer, urged the abolition of septic tanks and installation of a modern sewerage system in the interest of health.

A Latin-American Health Campaign directed particularly against tuberculosis was sponsored in Fort Worth the last week in June by the Fort Worth-Tarrant County Tuberculosis Society, the City Health Department, and a newly organized Latin-American Council. Ten community meetings were held and a radio talk was given. At a mass meeting Dr. John J. Andujar, Fort Worth physician, and R. C. Ortega, director of the Latin-American program of the Texas Tuberculosis Association, spoke in Spanish. Dr. Bert C. Ball, Fort Worth, represented the local tuberculosis society and spoke on the importance of mass radiography. A health film and musical entertainment completed the program. An exhibit on tuberculosis made by members of the Business and Professional Women's Club and Spanish posters made by commercial art students from the city schools were on display.

A Doctors' Office Building in Tyler to cost about $50,000 has been approved by city officials who issued a building permit to D. K. Caldwell, former Tyler city commissioner, states the Tyler *Telegraph*. Additions to and remodeling of a structure now at the location are under way, but delays in completing the proposed twenty-eight room structure were expected because of the scarcity of building materials.

The Veterans Administration Hospital at Temple, formerly McCloskey General Hospital, has been opened for medical and surgical patients, reports the Temple *Telegram*. Dr. Leroy M. Cochran, former manager of the Veterans Administration hospital in Amarillo, was assigned to put the 500-bed Temple hospital in operation. The area from which patients will be drawn will probably comprise most of central and south Texas.

Texas Medical Center.—An extensive survey to determine the hospital needs of the Houston area were begun the middle of July under sponsorship of the Texas Medical Center, informs the Houston *Post*. James A. Hamilton, New Haven, Conn., professor of hospital administration at Yale University and past president of the American Hospital Association, will make the three month study, the results of which will be available to interested agencies other than those of the Texas Medical Center. The survey is expected to make available information from numerous sources regarding the needs for medical and hospital service in Houston and suggestions for the type and proper distribution of facilities necessary to care for these needs. Dr. E. W. Bertner, president of the board of directors of the center, pointed out that such information should be of value to city and county health authorities and governments and already existing hospitals and welfare agencies as well as to those planning specifically for the dozen hospitals of the center.

University of Texas.—Dr. W. B. Sharp, professor of bacteriology at the University of Texas School of Medicine, was honored by the Bacteriology Club of the college with a dinner in June in recognition of his twenty-five years of continuous service to the medical college, states the Galveston *News*. Dr. Sharp reviewed the development of bacteriology during his association with the college. Dr. Chauncey D. Leake, vice-president and dean, also spoke.

Winthrop Chemical Company, Inc., has recently awarded two grants for the year 1945-1946 to the University of Texas Medical Branch for studies in anesthesia and a study of vitamins and diodrast. Dr. J. B. Rice, director of medical research for the company, has announced that grants totalling $92,500 have been made for special research by universities, hospitals, and foundations within the next year or two.

Southwestern Medical College.—Brig. Gen. William Lee Hart, U. S. A., Ret., on August 1 assumed the duties of dean of Southwestern Medical College, replacing Dr. Donald Slaughter, dean of students, who resigned to become dean of the University of South Dakota Medical School, and also taking over the administrative duties of Dr. Tinsley R. Harrison, who asked to be relieved as dean of faculty to devote his full time to research and teaching at the college. In announcing the selection of a new dean, Dr. E. H. Cary, president of Southwestern Medical Foundation, pointed to General Hart's accomplishments in the Army Medical Corps, of which he had been a member since 1908, for which he has been decorated by European and South American nations and was awarded the Founders Medal of the Association of Military Surgeons of the United States in 1942. General Hart, former medical director of the Eighth Service Command with headquarters in Dallas, was awarded the first honorary degree granted by Southwestern Medical College only last June, when he was presented with the degree of doctor of humanistic letters. Dr. William F. Mengert, professor and chairman of the department of obstetrics and gynecology, upon the request of the board of trustees, acted as dean of the college during July after Dr. Slaughter had left and before General Hart arrived.

Dr. Donald Slaughter, dean of Southwestern Medical College, who resigned to accept the deanship of the University of South Dakota Medical School, was honored at a luncheon sponsored by the board of trustees of the Southwestern Medical Foundation shortly before his departure July 1, reports the Dallas *Times-Herald*. Dr. Milford O. Rouse, president of the Dallas Southern Clinical Society and principal speaker, commended Dr. Slaughter on his accomplishments and his aid to medicine and medical research in the Southwest. Dr. Slaughter, coming to Southwestern Medical College in May, 1943, did much to organize and establish the new college, it was pointed out. Dr. E. H. Cary, president of the Southwestern Medical Foundation, also paid tribute to Dr. Slaughter's ability and achievements.

Enlargement of facilities and expansion of the research program for poliomyelitis and encephalitis were under way in July at Southwestern Medical College, informs the Dallas *Times-Herald*. Dr. S. Edward Sulkin, head of the bacteriology and immunology department, announced that quarters for two additional research assistants and space for more experimental animals were being added to the present building. He said that Ernest M. Izume, director of laboratory services at Fort Dix, N. J., and Miss Elizabeth Lee Watson, employed in the research laboratories of the New York City health department, are joining his research staff. The expanded program is being sponsored by a grant from the National Foundation for Infantile Paralysis.

Dr. Carl A. Moyer, for the past two years surgical director of a Michigan hospital and teacher of physiology, gross anatomy, and pharmacology at the University of Michigan, has joined the staff of Southwestern Medical College as professor of experimental surgery, reports the Dallas *Times-Herald*. He will also participate in the care of patients at Parkland Hospital. Dr. Moyer has done extensive research work in anesthesia and surgery and is author of numerous scientific papers.

Personals

Dr. R. A. Miller, San Antonio, has recently been named vice-president of the American Society of Anesthesiologists, according to *The Journal of the American Medical Association.*

Dr. James T. Mills, chief surgeon of Baylor University Hospital, Dallas, has been elected vice-president of the American Association of Plastic Surgeons, reports the Dallas *News*. Dr. Mills is also professor of plastic surgery at Southwestern Medical College.

Dr. A. K. Doss, Fort Worth, presented a paper at the meeting July 22-25 of the American Urological Association in Cincinnati, informs *The Journal of the American Medical Association.*

Dr. C. M. Hendricks, El Paso, is the new president of the American College of Chest Physicians, having taken office at the San Francisco meeting June 27-30 after serving during the past year as president-elect. During the meeting of the College Dr. Hendricks also was active as chairman of the council on military affairs and public health.

Dr. J. W. Nixon, San Antonio, presented a paper before the American College of Chest Physicians in San Francisco on June 30.

Dr. Arild E. Hansen, professor of pediatrics at the University of Texas Medical Branch, was on the program of the American Academy of Applied Nutrition in San Francisco, June 28-29.

Dr. M. A. Biggers, Canyon, on June 14, celebrated his fiftieth anniversary as a licensed physician in Texas, informs the Canyon *News*. Dr. Biggers began practice in Mount Pleasant in 1896. He has practiced more than twenty-six years in and near Canyon.

Dr. Edward O. Deal, pioneer Irion County physician, was injured in an automobile collision in Mertzon on June 3, states the San Angelo *Standard-Times.*

Dr. J. W. Bass, Dallas health officer, has been requested by Washington officials to assist in writing a medical history of the war in the Southwest Pacific, reports the Canton *Herald.* Dr. Bass spent forty-four months in that area.

Dr. Ben Primer, director of the Austin-Travis County Health Unit, has been awarded the Army Commendation Ribbon for his service as chief of the Fourth Army headquarters preventive medicine sub-section from October 4, 1944, to August 25, 1945, states the Austin *American-Statesman.*

Dr. Noble H. Price, Lamesa, recently spent six weeks taking a special course in surgery at Rochester, Minn., according to the Lamesa *Courier. Dr. J. W. Sinclair*, Tahoka, was in charge of the Price Hospital during Dr. Price's absence.

Dr. Gordon Clark, Iowa Park, has been named by Wichita County commissioners to succeed *Dr. W. B. Dorbandt*, resigned, as a member of the Wichita General Hospital board, informs the Wichita Falls *Record-News.*

Dr. P. M. Payne, Asherton, has purchased the Faust Hotel at Comfort, states the Carrizo Springs *Javelin.* In addition to continuing operation of the property as a hotel, Dr. Payne will maintain an office for his medical practice in the building.

Dr. Russell S. Wolfe, Houston, has been appointed chief of medical service of the Southeast Texas region of the Veterans Administration, according to the Houston *Post.* Dr. Wolfe, a veteran of five years in the Army, will administer outpatient, mental hygiene, and dental services for the Houston region.

Marriages

Dr. E. M. Cowart and Miss Marcelle Smith were married in Houston on April 10.

Dr. Otto Roger Hollan, Sinton, married Miss Edith Ann Lingle, Lancaster, Pa., on April 23.

Dr. David W. Quick, Jr., Galveston, married Miss Elizabeth Du Bois, Spokane, Wash., on April 22.

Dr. Carroll T. Adriance and Miss Gloria Gene Kierbow, both of Galveston, were married February 3.

Dr. George L. Porter, Dallas, married Miss Adina Hintze, Philadelphia, Pa., at Waco on June 29.

SOCIETY NEWS

Brown-Comanche-Mills-San Saba Counties Society

June 10, 1946

Abdominal Wounds Seen on Duty with the Marine Corps in the South Pacific—John W. Tottenham, Jr., Fort Worth.

Brown-Comanche-Mills-San Saba Counties Medical Society held its annual spring barbecue at Lake Merritt near Goldthwaite on June 10. About sixty-five members, their families, and friends were present. President Homer B. Allen, Brownwood, presided.

John W. Tottenham, Jr., Fort Worth, a former resident of Brownwood, was the guest speaker. He based his discussion of abdominal wounds on the cases he had seen while serving with the Marine Corps in the South Pacific.

Another barbecue at the lake has been planned for September.

Dawson-Lynn-Terry-Gaines-Yoakum Counties Society

June 12, 1946

Coronary Diseases of the Heart—Floyd T. McIntire, San Angelo.
Surgical Techniques—Gordon F. Madding, San Angelo.

Dawson-Lynn-Terry-Gaines-Yoakum Counties Medical Society met at the Lamesa Country Club on June 12 for a chicken dinner with the auxiliary, followed by a scientific program presented by Floyd T. McIntire and Gordon F. Madding, both of San Angelo. A round table discussion was held following the presentation of the papers named above. About twenty members and guests were present.

Falls County Society

July 10, 1946

(Reported by J. W. Torbett, Sr., Secretary)

X-Ray Treatment of Tumors of Small Intestines—Robert D. Moreton, Temple.
Our Political Problems—H. R. Dudgeon, Waco.

Falls County Medical Society met July 10 in the Blue Room of the Falls Hotel, Marlin. Following dinner, which was served to members and their wives, the program given above was carried out under the direction of S. S. Munger, program chairman.

Gregg County Society

June 11, 1946

Control of Communicable Diseases—W. R. Ross, Tyler.

Gregg County Medical Society sponsored a mass meeting at Longview on June 11 for making plans for a county-wide clean-up campaign. The principal speaker was W. R. Ross, Tyler-Smith County Health Unit director, who discussed the control of communicable diseases, particularly poliomyelitis.

Jefferson County Society

July 2, 1946

(Reported by L. R. Byrd, Jr., Secretary)

Legislative Program of the State Medical Association—L. C. Powell, Beaumont.

Jefferson County Medical Society held a called meeting at Hotel Dieu, Beaumont, on July 2, with President George Sladczyk, Port Arthur, presiding.

L. C. Powell, Beaumont, designated by the Board of Trustees of the State Medical Association as a special speaker, spoke to the society on the legislative program of the Association, discussing the proposed basic science law and the need for full support by each county medical society of candidates for the Legislature who are qualified and have committed themselves to support the public health meas-

ures recommended by the State Medical Association. A discussion of the local situation was participated in by T. A. Fears and W. D. Brown, Beaumont, and L. C. Heare, Port Arthur.

Following the society meeting, the Board of Directors of Jefferson County Medical Society, with President Sladczyk presiding, heard a letter from Holman Taylor, Secretary of the State Medical Association, stating that the Judicial Council of the American Medical Association had upheld the decision of Jefferson County Medical Society in expelling one of its members. Dr. Powell, seconded by Dr. Heare, moved that the expelled doctor be notified of the decision and that hospitals of the county also be informed of the action. The motion carried.

Upon motion by J. C. Crager, Beaumont, seconded by Dr. Powell, the Board voted to renew a subscription to *The Journal of the American Medical Association* for Lamar College, Beaumont.

Morris Weiss, Beaumont, was elected to membership upon application, transferring from Cook County Medical Society, Illinois.

Dr. Sladczyk appointed H. E. Alexander, Beaumont, chairman; John A. Hart, Beaumont, and other members as necessary to be selected by the chairman, to a committee to advise with the Board of Trustees of the Baptist Hospital to be built in Beaumont. The committee was named at the request of the hospital board.

Randall-Deaf Smith-Parmer-Castro-Oldham Counties Society

July 3, 1946

(Reported by Robert P. Jarrett, Secretary)

Proposed Basic Science Law—A. E. Winsett, Amarillo.

Randall-Deaf Smith-Parmer-Castro-Oldham Counties Medical Society met at the Neblett Hospital, Canyon, on July 3. Decision was made that the group should continue as an individual society, and R. A. Neblett, Canyon, was elected temporary president and Robert P. Jarrett, Canyon, temporary secretary-treasurer. It was decided to meet at Hereford in August to elect permanent officers.

Six members and one prospective member heard A. E. Winsett, Amarillo, discuss the proposed basic science legislation advocated by the State Medical Association. The society agreed actively to support passage of the bill.

Members were urged to pay state dues immediately if they had not done so.

Tarrant County Society

June 18, 1946

(Reported by W. P. Higgins, Jr., Secretary)

Colostomy: Its Uses and Abuses—George R. Enloe, Fort Worth.

Tarrant County Medical Society met in the Medical Arts Auditorium, Fort Worth, June 18, with thirty-four members present. The paper named above was presented by George R. Enloe, followed by a discussion by W. C. Tatum, R. J. White, and Burgess Sealy.

A report was presented from the medical and hospital service committee, stating that Fort Worth needs a minimum of 350 additional hospital beds to meet the present demand.

John J. Andujar, seconded by S. J. R. Murchison, moved that the society notify the mayor of Fort Worth that it is opposed to making public the names of persons reported to the Health Department for various illnesses. The motion carried.

L. O. Godley, delegate to the State Medical Association House of Delegates, reviewed the proceedings of the meeting held in Galveston in May.

O. A. Hamilton, John C. Powell, Jr., and Robert C. Stokes were elected to membership upon application; Robert H. Rowland by transfer from Galveston County Medical Society.

It was voted upon motion by W. C. Tatum, seconded by Hub E. Isaacks, that the society dispense with its meetings during July and August.

Tom Green-Eight County Society

June 3, 1946

Tom Green-Eight County Medical Society, meeting in the Indian Room of the Cactus Hotel, San Angelo, on June 3, unanimously voted to approve any attempt to promote better hospital facilities for San Angelo. The society discussed the possibilities of San Angelo becoming a large medical center, pointing out that better medical facilities would result in a greater influx of people into the city from the surrounding territory, thus bringing added business and money into the community.

Leon F. Hutchins was named to replace Victor E. Schulze as a member of the advisory board of the San Angelo-Tom Green County Health Unit. Dr. Schulze, whose term on the board had expired, was commended for his efforts in behalf of the health unit and the medical society. K. B. Round was appointed to continue on the board in the place of Aubrey Lewis, who resigned some months ago.

Wichita County Society

June 11, 1946

(Reported by Robert L. Daily, Secretary)

Wichita County Medical Society held a stag party at the Wichita Falls Country Club on June 11, dining on steaks provided by Henry P. Ledford, president. Raymond A. Lemee, of Vernon, guest speaker related some of his experiences in the Philippines during the war.

The average attendance at monthly meetings of the Wichita County Society during the first six months of this year has been fifty-seven from a membership of about eighty-six.

The society reports that Wichita County has recently voted better than two to one to favor an $800,000 bond issue to build a new city-county hospital if and when federal assistance becomes available.

Seventh District Society

July 9, 1946

(Reported by M. I. Brown, Secretary)

Seventh District Medical Society met at the country home of G. F. Thornhill near Austin on June 9. Approximately 125 members and guests participated in a social hour and barbecue dinner preceding a business meeting presided over by the president, Robert Morrison, Austin. After a general discussion it was decided to reorganize the program of the society so that a full day, winter meeting of scientific interest and a summer meeting with a combined social and scientific program will be held.

Officers of the past term were reelected as follows: Dr. Morrison, president; J. D. Stephens, Bastrop, vice-president; and M. I. Brown, Austin, secretary.

BOOK NOTES

[1]**The Osseous System.** A Handbook of Roentgen Diagnosis. By Vincent W. Archer, M. D., Professor of Roentgenology, University of Virginia, Department of Medicine. Cloth, 320 pages. Price, $5.50. Chicago, The Year Book Publishers, Inc., 1945.

This is a handbook which admirably serves the purpose for which it was written. It is not intended as a comprehensive treatise on radiology. It is illustrated with numerous excellent reproductions of

[1]Reviewed by James R. Bost, M. D., Houston, Texas.

x-ray films, and will be of considerable value to the physician who owns his own x-ray equipment but has not had years of special training in radiology, and also to interns and residents. The descriptions are concise and clear, and the author particularly emphasizes conditions which are not pathological and often lead to misinterpretations.

[2]**Essentials of Clinical Proctology.** By Manuel G. Spiesman, B. S., M. D., Proctologist, Mt. Sinai and Edgewater Hospitals; Consulting Proctologist, Grant, Henrotin, and St. Elizabeth Hospitals; Former Head of the Cook County Hospital Rectal Clinic. Foreword by Anthony Bassler, M. D., F. A. C. P., LL. D., Consulting Gastroenterologist, St. Vincent's Hospital and other hospitals, New York City. Cloth, 238 pages. Price, $4.00. New York, Grune & Stratton, 1946.

This little book on proctology is divided into twenty-nine chapters. While from its brevity it could not be called encyclopedic, there is no excess verbiage. The illustrations are clear and easily understood; those on congenital malformations of the anus and rectum being especially so. The chapters are very well balanced as to length. Conditions of the colon are, for the most part, merely mentioned. Each paragraph has a capital letter heading, which makes it easy to find a topic quickly.

There is an especially good chapter on pectenosis, and one on anal fissure, accompanied by excellent illustrations. In the chapter on fissure, the author emphasizes the association of chronic fissure with infected crypts and pectenosis. The chapter on pruritis ani, while offering nothing new, is well written.

Possibly some proctologists will disagree with the chapter on hemorrhoids, in which the author still champions the clamp and cautery method of removal. Most proctologists at this time prefer a clean surgical procedure, in which such anal pathologic lesions as enlarged and infected anal crypts may be searched for and removed with little extra trouble.

While there are some other details with which some proctologists will not agree, such as the use of mineral oil as a laxative following anorectal operations, it is a carefully written book, and, on the whole, one well worth reading by anyone interested in anorectal disease.

[3]**New Goals for Old Age.** Edited by George Lawton. Cloth, 210 pages. Price, $3.00. New York: Morningside Heights, Columbia University Press, 1945.

"What everyone wants after all is a larger increment of maturity, a longer period in which to enjoy being physically, socially, and mentally effective; and additional opportunity for enjoying the privileges, the pleasures and the profound emotional experiences of adulthood." This quotation taken from the book epitomizes the content of "New Goals for Old Age," a volume of coordinated essays that make engaging reading for anyone interested in life—"The last of life, for which the first was made."

Every adult who is responsible for the care of an elderly parent should read the chapter, "The Older Person in the World of Today—In the Family." It is thought provoking to the point of consummating the ideal set forth not only for those elderly people for whom one may be responsible, but also in plans for one's own old age.

It is a book to be read and digested to the advantage of every business executive in America. It gives a clarifying insight into the problem of seniority versus younger personnel. After all, the world, and science and industry in particular, are entitled to greater benefits from the accrued experiences of the men and women who have been tried in the school of experience and they too are entitled to greater rewards for their accomplishments.

Various problems confronting our changing social order in relation to its increased content of persons over 65 years of age present a challenge which Dr. Lawton and his coadjutors have met squarely. They point out that "when people reach age 60 they should have a chance for a stock taking of their abilities and resources—intellectual, social, emotional, recreational." Occupational therapy, bibliotherapy, music therapy, mental, physical, and social capacities of elderly people are all adequately discussed. To any adult, this book should be both interesting and worthwhile reading, but particularly to the medical profession it is both entertainment and education.

[2]Reviewed by William C. Tatum, M. D., Fort Worth, Texas.
[3]Reviewed by Will S. Horn, M. D., Fort Worth, Texas.

DEATHS*

Dr. Arthur C. Horton, Brownsboro, Texas, died of leukemia June 5, 1946, at a Jacksonville hospital.

The son of Alfred Marion and Nancy (Mann) Horton, Dr. Horton was born August 27, 1873, at Aberdeen, Miss. He came to Texas, where he attended high school in Itasca, then went to St. Louis to attend old Barnes Medical College, from which he secured his medical degree in 1904. Dr. Horton returned to Texas to practice and was active in Henderson County, first at Leagueville, then at Murchison, and in more recent years at Brownsboro, until his death.

DR. ARTHUR C. HORTON

During his professional career Dr. Horton was a member of the State Medical Association and American Medical Association and was a charter member of the Henderson County Medical Society. He served the latter organization as president several terms and was vice-president at the time of his death. He was also a member of the Eleventh District Medical Society. He was city health officer and chairman of the Brownsboro Red Cross at the time of his death. He was a member of the Methodist Church and a Mason.

Surviving Dr. Horton are his wife, the former Miss Vinnie Scott, whom he married at Athens in September, 1906; two sons, Arthur Marion Horton, U. S. Navy, and Jack Horton, Brownsboro; ten daughters, Mrs. Nolan Killingsworth, Kilgore; Mrs. Bradley Hughes, Beaumont; Mrs. Jimmie Tindell, Brownsboro; Mrs. Joe Henry Cade and Mrs. Harry Tindell, Chandler; Miss Verna Joe Horton, Jacksonville; Miss Hazel Horton and Miss Peggy Horton, students at East Texas State Teachers College, Com-

*An obituary ordinarily will not be published more than four months after date of death. Coöperation in reporting deaths of physicians and in furnishing appropriate biographical material promptly is solicited.

merce; Miss Patsy Ruth Horton, Orange; and Mrs. Albert Denton, California; a sister, Mrs. Lelia Porter, Murchison; and a brother, R. H. Horton, Athens.

Dr. Samuel Durfey Swope, El Paso, died June 13, 1946, of coronary occlusion.

The son of Morgan and Louvica Mariah (Flanders) Swope, Dr. Swope was born November 5, 1864, on a farm in Henderson County, Ky. He attended the schools there and taught for a short time before securing his medical degree from the University of Louisville in 1867. For the next eight years he practiced successively in Louisville, Henderson, and Marion, Ky. The health of his father and his brother made a move westward advisable at that time, and Dr. Swope located in Deming, N. M., where he was in practice from 1895 until 1923. In 1923 he moved to El Paso, practicing there until shortly before his death. Dr. Swope specialized in psychiatry.

DR. SAMUEL D. SWOPE

Dr. Swope throughout his professional career was active in medical organizations. He was a member of Kentucky State Medical Association and Southwestern Kentucky Medical Association, serving as president of the latter group in 1894. When he moved to New Mexico, then a territory, he joined the Territorial Medical Association and in 1897 became its president. From 1899 through 1905, with the exception of 1901, he was delegate to the American Medical Association, of which he was a member. He also served the American Medical Association lecture bureau. He was a member of Luna County Medical Association and of the New Mexico Medical Association after it was organized. He was a fraternal delegate from the New Mexico Association to the state associations of Colorado, Arizona, and Texas. He helped organize and was first president of the New Mexico Railway Surgeons Association, which later became the Southwestern Medical and Surgical Association. Upon moving to Texas, Dr. Swope affiliated with the El Paso County Medical Society and the State Medical Association, of which he was elected an honorary member at the 1946 annual session. He was also a member of the Southern Medical Association and the Southern Psychiatric Association, a fellow of the American College of Surgeons, and a diplomate of the American Board of Psychiatry and Neurology. He was a consultant in psychiatry for the El Paso City-County Hospital and was on the staffs of Hotel Dieu, Masonic Hospital, and Southwestern General Hospital.

While a resident of Deming, N. M., Dr. Swope served a term as mayor. He was also chairman of the Luna County, N. M., Democratic organization. He was a member, an elder and superintendent of the Sunday school of the First Presbyterian Church, El Paso.

In 1916 when Pershing led an expedition into Mexico against Pancho Villa, Dr. Swope volunteered as surgeon for the New Mexico National Guard. During World War I he served overseas as surgeon of the 143rd Machine Gun Battalion, and during World War II he was neurologist and psychiatrist on the medical examining board at the Fort Bliss reception center. At the time of his death, he held the rank of major in the Medical Corps Reserve, inactive.

Dr. Swope's hobbies included horseback riding, hunting, fishing, mechanics, gardening, archeology, and reading.

The former Miss Florence Eunice Crissey, whom Dr. Swope married in El Paso in June, 1936, survives. Also surviving Dr. Swope are three daughters, Mrs. Mary Lou Brady and Mrs. Charles P. Carroll, San Diego, Calif., and Mrs. Chester O. Grace, Carrolton, Mo., born to Dr. Swope's first wife, the former Miss Sudie Leslie Weaver, Henderson, Ky., whom he married in 1889 and who died in October, 1920. A second wife, the former Miss Margaret M. Maule, whom he married in New York City in December, 1921, died in El Paso in April, 1935.

On March 1, 1946, Dr. Swope completed fifty-nine years of medical practice. It has been estimated that during the first five years of his practice in Kentucky he rode on horseback a total of 27,000 miles.

In accordance with Dr. Swope's request, money which would have been spent for flowers to honor him is being donated through the El Paso County Medical Society to a fund to create a psychiatric suite in an El Paso hospital.

Dr. Henry H. Leeman, Windom, Texas, died June 3, 1946, at his home of coronary occlusion.

Dr. Leeman was born in February, 1868, at Honey Grove, but moved at an early age with his parents to Bonham. He attended the public schools and Carlton College there, going in early manhood to Dallas where he became a printer. He decided to study medicine, was graduated from the St. Louis College of Physicians and Surgeons in 1898, and later took postgraduate work at various centers. He returned to Texas to practice, locating at Windom, where he practiced continuously until his death. He had for a number of years also maintained an office at Bonham and was on the staff of the Allen Memorial Hospital there.

DR. HENRY H. LEEMAN

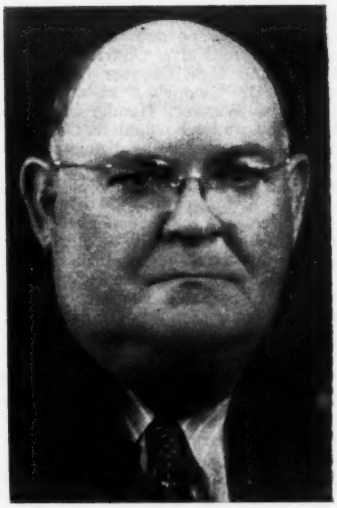
Throughout his professional career Dr. Leeman was a member of the State Medical Association and American Medical Association, through Fannin County Medical Society. In 1931 and again in 1937 he served the Fannin County Society as president. He was an elder in the Church of Christ and was a Mason.

Dr. Leeman is survived by his wife, Mrs. Annie

Leeman; two daughters, Mrs. Leah Dowlen and Mrs. Loneta Dowlen, Windom; a half sister, Mrs. T. J. Caldwell, Dallas; and three half brothers, Dr. E. W. Burnett, Rusk; Dr. Thomas R. Burnett, Mission; and J. E. Burnett, Dallas.

Dr. William Robert Kelly, Jasper, Texas, died March 13, 1946, after a year's illness.

Born in 1881 at Durant, Miss., Dr. Kelly attended the Memphis (Tenn.) Hospital Medical College and the medical department of the University of the South, Sewanee, Tenn., from which he was graduated in 1906. He practiced in Mississippi, Oklahoma, and Deweyville, Texas, before locating at Jasper in 1925. He was associated with the Richardson-Kelly hospital in Jasper until a few years ago, and was county health officer from 1937 until his death.



DR. WILLIAM ROBERT KELLY

Dr. Kelly was a member of the State Medical Association and the American Medical Association through the Jasper-Newton Counties Medical Society almost continuously from the time of his location in Texas. He was a member of the Methodist Church, a thirty-second degree Mason, and a Knight Templar.

Surviving Dr. Kelly are his wife, Mrs. Vassie Lee Kelly; two daughters, Mrs. Herselle Sawyer and Mrs. Opal Shaw, Jasper; two sons, Louis Kelly, Newton, and W. R. Kelly, Jr., Crockett; two step-daughters, Mrs. Mynell McGinty, Jasper, and Mrs. Bonnie Bell, Philadelphia, Pa.; three step-sons, Varrell Crowder, Jacksonville, Fla., Hoyle P. Crowder, with the Army stationed at Daytona Beach, Fla., and Jesse H. Cannon, Bogata; one sister, Mrs. W. W. Purdom, Calvert; one brother, Madison Kelly, Calvert; and two grandchildren, Sherry Beth and John Carlton Sawyer, Jr., Jasper.

Dr. Menard William Lowrey, Gatesville, Texas, died of lymphatic leukemia May 24, 1946.

Born February 8, 1875, in Peoria, Hill County, Texas, Dr. Lowrey was the son of Dr. William J. and Elizabeth Lowrey. He attended high school at Lindale and went to Weatherford Junior College before securing his medical degree from old American Medical College in St. Louis in 1897. He began practice with his father at Hester, Texas, upon his graduation, moved to Richardson in 1900, to Sanger in 1904, and to Gatesville in 1909. He remained active in Gatesville until shortly before his death.

Dr. Lowrey was a member throughout his professional career of the State Medical Association and American Medical Association, for a short while through Denton County Medical Society and then through Coryell County Medical Society. He was secretary of the Coryell County Society from 1930 through 1933 and again in 1943, and was president of the society in 1934, 1935, 1945, and 1946. He was also a member of Twelfth District Medical Society. In 1918 Dr. Lowrey was elected a city councilman, serving in that capacity until 1928 when he was elected mayor of Gatesville. He continued as mayor until 1936, and during his administration the municipal building was erected and improvements were made in the city park, school plant, athletic field, and sewerage and water systems.

February 8, 1911, Dr. Lowrey married Miss Katherine Leo Halbrook, who survives. Also surviving are two sons, both doctors, E. E. Lowrey, Gatesville, and Capt. O. W. Lowrey, Army Medical Corps; one daughter, Mrs. W. J. Holt, Gatesville; two brothers, Robert Lowrey, Redwood City, Calif., and Lester Lowrey, Fullerton, Calif.; and two sisters, both of California.

Dr. Clark Anson Wilcox, Wichita Falls, Texas, died April 4, 1946, of aplastic anemia.

Dr. Wilcox, the son of Charles E. and Carrie (Horner) Wilcox, was born at Scottsville, N. Y., February 7, 1890. He received a bachelor of science degree in civil engineering from the University of Michigan, Ann Arbor, prior to obtaining his medical degree from the New York Homeopathic Medical College and Flower Hospital, New York City, in 1916. He then served an internship at the Lying-In and Flower Hospitals in New York City. In 1917 he was commissioned a first lieutenant in the Medical Reserve Corps of the Army. After several years in the Reserve, he accepted the commission of captain in the Medical Corps of the U. S. Army, later resigning to do civilian practice in Wichita Falls. He was made a major in the Reserve Corps in 1924 and was promoted to lieutenant colonel in 1931. From 1923 until his death Dr. Wilcox was radiologist with the Wichita Falls Clinic and Clinic-Hospital.

DR. CLARK ANSON WILCOX

Dr. Wilcox was a member of the State Medical Association and the American Medical Association through Wichita County Medical Society. He was also a member of the Texas Radiological Society and served both that organization and Wichita County Medical Society as president. He was a member of the Radiological Society of North America, a fellow of the American College of Radiology, a fellow of the American College of Physicians, and a diplomate of the American Board of Radiology. He was a member of the Baptist Church, Phi Alpha Gamma medical fraternity, Scottish Rite, Shrine, Knights Templar, and Blue Lodge.

April 28, 1923, in Kansas City, Mo., Dr. Wilcox married Miss Ruth Gracelon, who survives. Also surviving are two daughters, Miss Allene Wilcox and Mrs. J. R. (Susan Wilcox) Kolb, Jr., both of Wichita Falls; one sister, Mrs. Ruth W. Engle, Compton, Calif.; and one grandson, James Clark Kolb, Wichita Falls, born April 2, 1946.